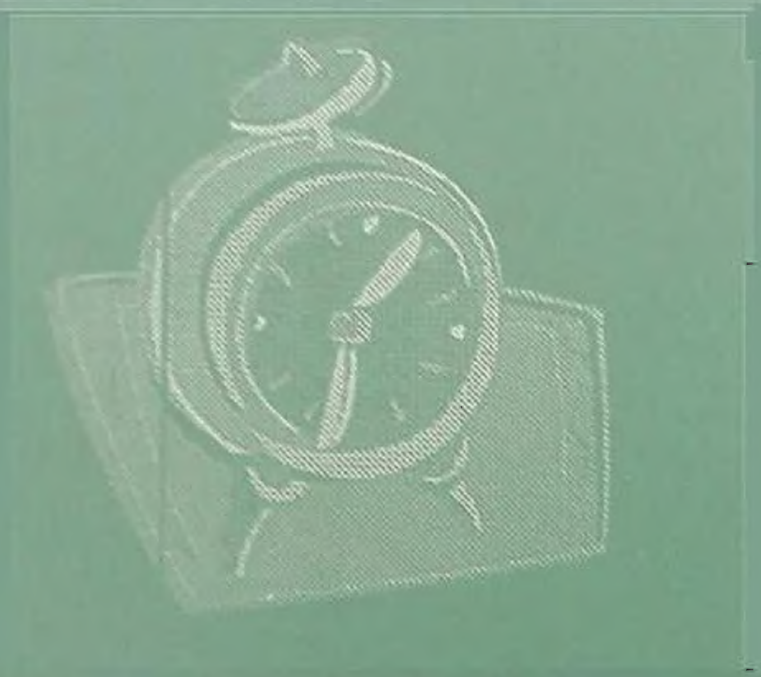
Revision



OBST 2010

1

Bleeding in early pregnancy

- Abortion
- Ectopic
- Vesicular mole

❶ Spontaneous abortion

Introduction

.It is the spontaneous TOP by the attempt of uterus to expel its contents before the period of fetal viability .Its incidence is 15–20 %

Etiology

1- Fetal:

- Congenital fetal malformations (chromosomal or genetic)
- Blighted ovum (anembryonic sac)

2- Maternal:

- *Systemic disease* → hypertension / chronic renal disease
- *Endocrinal* → DM, hypothyroidism, placental or CL insufficiency
- *Infections* → STORCHeB
- *Immunological* → SLE, APS, Rh isoimmunization
- *Drugs* → cytotoxic drugs or radiation
- *Trauma* → direct or surgical

3- Local

- Patulous internal os
- CMF of uterus e.g. septum, hypoplasia
- Submucous fibroid
- Asherman's syndrome
- Fixed RVF

Pathogenesis

. Usually bleeding occurs into the chorio-decidual space → uterine irritation & colic. This is called *spontaneous* abortion.
. If bleeding & pain increase → expulsion of the pregnancy sac & is called *inevitable* abortion, which may be *complete* or *incomplete*
. If baby dies without expulsion, this is a *missed* abortion
. If superinfection occurred, this is a *septic* abortion
. If abortion is repeated > 3 successive times, it is called *habitual* abortion

Clinical picture

- Triad of amenorrhea → bleeding → pain
- Symptoms
  - Amenorrhea with symptoms of early pregnancy
  - In threatened abortion, bleeding & pain are slight
  - In inevitable abortion, bleeding & pain are sever (esp. in back)
  - In missed abortion, fetal movements stops & breast discharge appears
  - In septic abortion, there is fever, & offensive vaginal discharge
  - In patulous os, there is sudden ROM followed by painless rapid smooth delivery of fresh abortus

- Signs
  - General
    - . Signs of early pregnancy (but absent in missed)
    - . Pallor / shock (according to amount of bleeding)
    - . Toxic, pale, tachycardia, tachypnea, high fever in septic
  - Abdominal
    - . Uterus corresponds to period of amenorrhea in threatened but less in complete abortion
    - . Abdominal tenderness & rigidity in septic abortion
    - . Fibroid in habitual abortion
  - Local
    - . Cervix → is closed in threatened abortion but open in inevitable
    - . Offensive discharge & tender cervix in septic
    - . Prune juice discharge in missed
    - . Fullness in Douglas pouch (pelvic abscess) in septic

Complications

- Bleeding → shock
- Infection → septic abortion which may lead to
  - . Local spread: endometritis, myometritis, salpingoophritis
  - . Pelvic peritonitis, pelvic abscess, generalized peritonitis
  - . Septic shock, ARDS, acute haemolysis, jaundice, DIC, renal failure
- DIC (hypofibrinogenemia) → after 4–6 weeks in missed abortion
- Complications of evacuation as perforation of uterus
- Psychological effec: d.t. repeated fetal loss

Investigations

- *For diagnosis (determine fetal life)*
  - U/S (TV-US → 5 wks ……TA-US → 7 wks….Sonicaid → 10 weeks)
  - β-HCG & repeat in 2 days → doubled (if -ve → missed abortion)
- *For complications*
  - Fibrinogen level in missed abortion
  - Blood culture, TLC, ESR, CRP, high vaginal swabs in septic
- *For etiology*
  - General cause
    - . Endocrine → GTT (DM), thyroid function tests
    - . LPD → D&C, serum progesterone, vaginal cytology
    - . Immunological → SLE, APS, HLA abs, antisperm abs
  - Local cause
    - . If pregnant → U/S (better transvaginal)
    - . If not pregnant → HSG, hysteroscope → uterine malformations
  - Fetal cause → genetic studies + postmortem picture of the abortus

Treatment

1] Threatened
- Rest (physical, sexual, mental)
- Antispasmodics e.g. antiprostaglandins
- Progesterone → uterogestan 100 mg twice daily
- Anti-D if Rh-ve

2] Inevitable
- Resuscitation if shocked
- Evacuation: . 1st trimesteric → evacuation by suction or curettage
  . 2nd trimesteric → oxytocin or prostaglandins
- Followed by
  . Ecbolics → helps complete evacuation of remnants
  . Antibiotics → reduces possibility of postabortive inf

3] Missed
- If fibrinogen is normal → TOP (acc. to gestational age) + antibiotics
- If fibrinogen is reduced → fibrinogen, FFP, fresh blood (or heparin if there is no external bleeding) then TOP

4] Septic
- Elevation of the general condition
  . Antibiotics (in combination in high doses)
  . Close observation in the ICU (in complicated cases)
  . Blood transfusion (better fresh) and intravenous fluids
  . Hydrocortisone or dexamethasone
- Evacuation of contents
  . 1st trimester → suction evacuation is better than curettage
  . 2nd trimester → induction of abortion by oxytocin or PG
    if failed → hysterotomy
    in severe cases → hysterectomy in toto
- Treatment of complications e.g.
  . Pelvic abscess → posterior colpotomy
  . Renal failure → dialysis
  . RDS → assisted ventilation

5] Habitual
- General cause → special treatment e.g.
  . Insulin for DM
  . Heparin + aspirin 75 mg/day for APS
- Local cause → cerclage
  . Vaginal: McDonald, modified Shirodkar
  . Abdominal if very short or absent cervix, repeated failed cerclage
- If no cause is found (>50%) → empirical drugs e.g.
  . progesterone, low dose aspirin, heparin, folic acid

Etiology

- Main causes
  - *Abortion*
    - . Threatened
    - . Missed, septic, inevitable (complete / incomplete)
    - . If recurrent > 3 times ➟ habitual
  - *Ectopic*
    - . Undisturbed
    - . Subacute / acutely disturbed
    - . Chronic pelvic hematocele
  - *Vesicular mole* ➟ complete / incomplete
- Others
  - Local gynecological cause
  - Hartman's sign
  - Decidual hge.

Clinical picture

- Symptoms.....a triad of:

1- **Amenorrhea** & symptoms of early pregnancy
- Absent in missed abortion
- Short period in ectopic
- Exaggerated in V.mole

2- **Pain**
- Occur 1st in disturbed ectopic
- Types:
  - . Colicky in inevitable abortion (radiating to back)
  - . Absent in missed abortion
  - . Continuous dull aching in septic abortion
  - . Acute abdomen in disturbed ectopic
  - . Acute abdomen in V.mole if complicated TL cyst

3- **Bleeding**
- Occur 1st in abortion
- Types:
  - . Severe in inevitable abortion
  - . Absent in missed abortion
  - . Associated vag. discharge in septic abortion
  - . Mild & late in disturbed ectopic
  - . Continuous trickling in V.mole ± vesicles

- Signs

General
- Abortion → anemia in threatened abortion, fever in septic type
- Ectopic → shock & sudden collapse (not proportional to ext. bl.)
- V.mole → anemia ± comp. (PIH, H.gravid., thyrotoxic.)

Abdominal
- Abortion → FL < amenorrhea in missed abortion, T, R, RT in septic
- Ectopic → generalized tenderness & rigidity ± Cullen sign
- V.mole → . FL > amenorrhea
  . doughy sensation (no fetus)
  . bilateral adenexal swelling (theca lutein cyst)

Local
- Abortion → cervix closed in threatened, opened in inevitable
- Ectopic → cervical motion tenderness (jumping sign)
- V.mole → no ballottement ± vesicles

Investigations

- Diagnosis

β-HCG
- Abortion → decreasing in inevitable or missed abortion
- Ectopic → subnormal rise (< 66%)
- V.mole → high levels (> 100.000)

U/S
- Abortion → +ve fetal life in threatened & absent in missed
- Ectopic → adnexal swelling or empty uterus + β-HCG > 2000
- V.mole → snow storm (honey comb by x-ray)

Laparoscopy
- In doubtful suspected cases of ectopic

- Etiology
  . Thyroid function tests, sugar level after abortion
  . HSG, anti-phospholipid antibodies after habitual abortion
  . Chest x-ray for metastasis after V.mole

- Complications
  . CBC & Hct level to detect anemia
  . Fibrinogen level in missed abortion
  . Renal & liver function tests in septic abortion

Complications

- Mortality
  - Shock after severe bleeding → renal failure
  - Sepsis → with multi-organ failure in septic abortion
  - DIC → after retained missed abortion for > 4-6 wks
  - Malignancy → choriocarinoma in 5-10% of cases of V.mole

- Morbidity
  - Anesthesia
  - Operation → perforation during D&C
  - Long sequele
    - . Recurrence of ectopic or V.mole
    - . Infertility esp after ectopic pregnancy

Treatment

- Resuscitation
  - Blood transfusion + O_2
  - Corticosteroids, warmth, fluid

- Medical
  - Threatened abortion → progesterone + anti-PG
  - Septic abortion → antibiotic + steroids (elevate g. condition 1st)
  - Undisturbed ectopic → methotrexate (if sac < 3cm & HCG < 3000)

- Surgical

  1- Evacuation
  - 1st trimester → D&C or suction evacuation (esp septic)
  - 2nd trimester → ecbolics (PG / oxytocin), if failed → hysterotomy

  2- Laparoscopy
  - For undisturbed ectopic
  - Salpingotomy or salpingostomy

  3- Laparotomy
  - For acutely disturbed ectopic
  - In V.mole only for complicated theca lutein cysts

- Complications
  - DIC → fibrinogen , FFP, fresh blood
  - Organ failure (sepsis) → support
  - Perforation → repair of uterus

- Rh for Rh-ve

❸ Undisturbed ectopic

Introduction

- Implantation anywhere outside the endometrial cavity but still didn't erode the wall or cause physical signs
- Incidence is raised nowadays to 1–3 % due to increase of STD's, contraception use, ART & tubal surgery for infertility

Etiology

- Congenital → hypoplasia, accessory ostia, diverticula
- Trauma → after tubal surgery or ovarian cystectomy or myomectomy
- Infection → STD (chlamydia > gonorrhea), PID, appendicitis
- Neoplastic → tumors of the ovary or uterus or endometriosis

Pathology

- Uterus
  - . Symmetrically enlarged (slight), $\uparrow^{ed}$ vascularity, hypertrophy
  - . Decidual reaction (but with no villi)
  - . Arias Stella reaction in 10–15 %
- Tube
  - . Any part may be affected (esp ampulla) → enlarged, vascular
  - . Undisturbed ectopic is usually diagnosed at 6 – 7 wks
- Ovary → one shows CL of pregnancy

Clinical Picture

- A triad of (amenorrhea → pain → bleeding)
- However, in this case, there is usually one missed period, C/P is vague & early diagnosis needs high level of suspicion
  - . History of pdf (e.g. PID, IUCD) + you must be ectopically minded
  - . May be discovered accidentally during routine U/S of pregnancy
- Symptoms
  - . Short period of amenorrhea + symptoms of early pregnancy
  - . Pain → slight dull aching in one iliac fossa (tubal stretch)
  - . Bleeding → usually absent or very mild
- Signs
  - . General → signs of pregnancy
  - . Uterus → soft, slightly enlarged
  - . Adenexae → slight tenderness in one fornix, sometimes a swelling may be palpable (< 3cm)

Investigations

- β-HCG → subnormal rise (less than 66% within 2 days) is suggestive of an ectopic or non-viable intrauterine pregnancy
- **Ultrasound**
  - . Vaginal (more sensitive & specific) → 5 – 6 wks
    → gestational sac with fetal echoes outside the uterus
  - . Combined use of U/S + β-HCG
    The discrimination value at which U/S can detect an intrauterine pregnancy is 2.000 mIU/ml (by vaginal probe). Any level above this + no intrauterine pregnancy detected by U/S → most probably will be an ectopic pregnancy
- **Laparoscopy**
  - . In query cases, not confirmed by above methods (diagnostic)
  - . Can be therapeutic in haemodynamically stable patients
- **Culdocentesis** (tapping of Douglas pouch)
- **Serial Hb & Hct** → detects haemodynamic stability
- **Progesterone level** → ≤ 5 ng /ml → abnormal pregnancy

Treatment

- **Laparoscopy (or laparotomy)**
  - 1st inspect the other tube (may be diseased, absent, malformed)
  - Conservative surgery
    - This is in the form of *linear incision* (at the anti-mesenteric border)
      - . Salpigotomy: tube is closed by sutures
      - . Salpingostomy: tube is left open → heal by 2ry intention
  - Salpingectomy → this is preferred by many to avoid recurrent ectopic
- **Conservative medical ttt**
  - Methods
    - . Methotrexate (50 mg / m^2 surface area)
    - . Anti-progesterone (RU-486)…Mifepristone
    - . PG-$F_{2\alpha}$ (locally in the sac → laparoscopic or U/S guided)
  - Criteria
    - . Sac size < 3 cm + NO cardiac activity
    - . β-HCG < 3000 mIU/ml
    - . Patient haemodynamically stable
  - Follow up
    - . Serial Hb & Hct levels, TVUS, β-HCG
    - . Dose is repeated if no decline by ≥ 15% between days 1 & 4 & 7
    - . Surgery is done if no response after 3 doses

④ Acutely disturbed ectopic

Introduction

- It is rupture or erosion of the fallopian due to an abnormally implanted pregnancy leading to acute abdomen
- Incidence is raised nowadays to 1–3 % due to increased rate of PID & salpingitis, contraception use, ART & tubal surgery

Etiology

- Congenital → hypoplasia, accessory ostia, diverticula
- Trauma → after tubal surgery or ovarian cystectomy or myomectomy
- Infection → STD (chlamydia > gonorrhea), PID, appendicitis
- Neoplastic → tumors of the ovary or uterus or endometriosis

Pathology

- Uterus
  - . Symmetrically enlarged (slight), ↑ed vascularity, hypertrophy
  - . Decidual reaction (but with no villi)
  - . Arias Stella reaction in 10–15 %
- Tube
  - . Any part may be affected (esp ampulla) → enlarged, vascular
  - . Usually disturbs early before 12 weeks d.t. limited tubal distension
- Ovary → one shows CL of pregnancy

Pathogenesis of disturbance

- Intra-tubal rupture
  - . Tubal mole (hematosalpinx)
  - . Tubal abortion (through the fimbria)
- Tubal rupture
  - . Intraperitoneal → peritubal hematoma, pelvic hematocoele, generalized intra-peritoneal haemorrhage
  - . Extraperitoneal rupture → broad ligamentery pregnancy

Clinical Picture

Symptoms

- ↘ AMENORRHEA: short period, mostly there is one missed period, sometimes may occur at or before the 1st missed period
- ↘ Sudden severe PAIN: ± N & V (intraperitoneal hge)
  - Dull aching → tubal distension
  - Sharp stabbing → erosion through the wall
  - Colicky → tubal contractions (tubal abortion)
- ↘ Vaginal BLEEDING: drop of β-HCG → slight dark brown (prune juice)

Signs

- ▸ General → shock (not proportional to external hge)
- ▸ Abdominal → - T,R,RT over most of abdomen
  - Shifting dullness
  - Cullen's sign
- ▸ Vaginal → difficult (marked tenderness: jumping sign)

Investigations

- Usually no need, if diagnosis of intraperitoneal hge is evident → proceed directly to laparotomy. Otherwise, we may do:

. Ultrasound → swelling at one adnexum
. Laparoscopy → intraperitoneal hge
. Culdocentesis → bloody fluid
. Hb & Hct → detects haemodynamic stability

Treatment

- ▫ Resuscitation → anti-shock measures (if shocked)
- ▫ Laparotomy
  - Peritoneal toilet → to remove blood
  - 1st inspect the other tube (may be diseased, absent, malformed)
  - Salpingectomy → affected tube is removed ± oophrectomy
  - Conservative surgery
    - If only one tube is present or in mild cases or in low parity ⇝ every attempt should be done to conserve on the tube
    - This is in the form of *linear incision* (at the anti-mesenteric border)
      . Salpigotomy: tube is closed by sutures
      . Salpingostomy: tube is left open → heal by 2ry intention
      . Milking the tubal contents (the worst) if it is near the fimbria
      . Partial salpingectomy (should never be done)

- ▫ Laparoscopy (diagnostic & therapeutic role)
  - Same procedures as in laparotomy may be done
  - Needs expert team + special equipment + haemodynamic stability
  - Advantage → done as a day case

- ▫ No Conservative medical Rx may be done
- ▫ D&C may be done.....to remove decidua → ↓ bleeding & infection
- ▫ If Rh –ve → give anti-D

Madeha Ahmed Yousry,, 28 yrs old, P 2+1, Pregnant at 8 weeks, a case of missed abortion for evacuation

Complaint: She's pregnant (*amenorrheac*) for two months and complains of vaginal bleeding for one week duration

Menstrual: Her LMP was on 28 /07 /2010, the patient is sure of her dates which make her now pregnant at 8^{+2} wks making her EDD (EDC) at 5 / 5 / 2010 (*no need!*)

Obstetric: She's P_{2+1}

- Two normal (*spontaneous* ✓) vaginal deliveries at Matarya hospital, a boy (5 years) and a girl (4 years). There were no ante or post partum comp. Both babies were average weight & breastfed.
- She had a spontaneous abortion 2 years ago followed by D&C, but there was no post abortive complications

HPP:

- The patient is pregnant now at 8 weeks. She knew that she is pregnant when she missed a period. The patient started to experience symptoms suggestive of early pregnancy as N&V, and breast heaviness. However a pregnancy test was not done. The patient didn't attend any ANC....stumba
- One week ago, she started to complain from a sudden attack of vaginal bleeding. Bleeding was mild; it didn't cause fainting or blackouts, also, there were no blood clots. Bleeding was not related to trauma or intercourse. There is no bleeding from other orifices, ecchymosis (*excludes a general cause*). There were associating mild lower abdominal colicky pain radiating to both lower limbs.
- The patient sought medical advice & an U/S was done that revealed intact pregnancy & the patient was advised to have rest & to take some form of oral tablets & rectal suppositories
- However, one day ago, during the routine U/S follow up, a non-viable fetus was documented as seen with the patient report, although there were no symptoms of bleeding or lower abdominal colicky pain. The patient also noticed improvement of her nausea, also, a slight yellowish discharge started from both breasts
- She is not complaining of foul vaginal discharge, fever, symptoms of hyperemesis, UTI (*to complete all symptoms of the 1st trimester*).
- There were no other symptoms suggestive of any medical disorders with pregnancy
- The patient is prepared now to perform a vaginal evacuation operation (*the most important is fibrinogen level – coagulation profile*)

Abeer Mahmoud Mosawy, 23 years, P 0+3 ,
pregnant at 11 weeks, incompetent cervix for cerclage

Complaint: she's referred to our hospital to perform a vaginal cerclage operation as she's known to have previous recurrent abortion

Obstetric: P_{0+3}.

- 1st abortion: 1½ year ago, spontaneous abortion at home followed by D&C at 15 weeks in a private clinic
- 2nd abortion: 1 year ago, spontaneous abortion occurred at home at 12 weeks of pregnancy followed by D&C
- 3rd abortion: 8 months ago, spontaneous abortion occurred at hospital at 12 weeks of pregnancy followed by D&C
- All operations passed smoothly, there were no post-operative comp.
- No previous cerclage was performed

Menstrual: ??

- LMP : 6 / 07 / 2010
- EDD : 13 / 4 / 2011
- EGA : 11^{+3} weeks.

Contraceptive: she used no contraceptive methods

History of present pregnancy:

- The patient knew that she is pregnant 3 months ago after cessation of menstruation, accompanied with symptoms suggestive of early pregnancy in the form of N&V, heaviness of breast, fatigability & frequency of micturition. Pregnancy test in urine was done which was proved to be +ve.
- She had regular ANC from the start & she sought immediately medical advice to avoid recurrence of miscarriage (*suggestive history*). Ultrasound examination revealed a patulous cervix (*confirmation*) and she was advised to perform a vaginal cerclage.
- There was no history of vaginal bleeding, lower abdominal pain, any abnormal vaginal discharge or passage of watery fluid(*to complete all symptoms of the 1st trimester*).

Oral questions

✣ **How to know the etiology of the habitual abortion from history**

- *Menstrual history*
  - Premenstrual spotting……CLI
  - Menorrhagia……fibroid
  - Hypomenorrhea……Aschermann syndrome
- *Obstetric history*
  - Descending pattern……patulous os
  - Ascending pattern……hypoplastic uterus
  - Fresh (local cause)….macerated (maternal)…anomalized (fetal)
  - Easy smooth painless abortion > 12 weeks……patulous os
- *Past history* …….of any maternal disease

✣ **What is the work-up to know the cause of abortions in this patient**

- *U/S* → for cervical dimensions
- *Endocrine* → GTT for DM, thyroid function tests
- *Infection* → STORCH IgM (esp. toxoplasmosis)
- *Immunological* → antibody titer for SLE, APS
- *Thrombophilia* → anti-thrombin III and protein C&S assay

✣ **How to suspect Anti-phospholipid syndrome**

- History of recurrent thrombosis, PET, IUGR
- . History of ≥ 3 abortions less than 10 weeks of unknown etiology
- Confirmation by Anti-cardiolipin antibody, Anti-lupus anticoagulant

✣ **Is anti-phospholipid titer accurate?** No, they have high false +ve

✣ **How to treat APS?** combination of aspirin (75 mg) & heparin (clexan)

✣ **Does toxoplasmosis cause habitual abortion?** A long-lasting belief, however, there must be:

- Acute infection with the full clinical picture
- Rising IgM titer
- Recently, it is proved to cause abortion only once

✣ **What are types of cerclage?** Vaginal and abdominal

✣ **When to remove it earlier?** If contractions occurred, PROM, infections

✣ **When to remove abdominal cerclage?** It is not removed

✣ What do you expect for this patient? Cerclage may help, but % of abortions increase with the number of previous abortions.

✣ What are the other rare causes of bleeding in early pregnancy...?

- *Local gynecological causes* ⇨ as ulcers, polyp, HPV, tumor
- *Hartman's sign* ⇨ scanty *spotting* at time of implantation
- *Decidual haemorrhage* ⇨ monthly scanty *bleeding* at time of menses

✣ What are the sure signs of pregnancy?

- Inspection, palpation, auscultation of fetus
- Ultrasonography to visualize the fetus
- NB: .....AMENORRHEA / HCG are ***not*** a sure sign of preg.....

✣ How to diagnose pregnancy?

		1st trimester	2nd trimester
Sympt		-Amenorrhea, morning sickness, frequency of micturition	Quickening (1st perception of fetal movement = 18 wks)
		-Breast symptoms as heaviness, pain, enlargement, colostrum	Prog. abd. enlargement (assessed by fundo-symphyseal height)
Signs	Breast	Montgomery tubercles	Increased size, dilated veins
	Genital	- Vulva.....Jaque-Mier - Vagina.. ..Chadwick - Cervix.....Goodell - Uterus . Palmer sign *(feel uterine cont by PV)* . Hegar sign *(2 fingers can be approximated)*	. Braxton Hick's contractions . Uterine soufflé may be heard
	Fetal	-------	- Ballottement (mov within A.fluid) - Inspection/ palpation/ auscultation - Umbilical soufflé may be heard
Invest.	Preg. tests	- Latex agglutination....500 - ELISA.....50 mIU/ml - β-HCG.....5 mIU/ml	-------
	U/S	-Transvaginal → 5–6 wk - Transabd. → 6–7 wk - Doppler → 10 wk	-------

Slide MCQ - abortion

Cervical incompetence, (Tru-Exc):

a- Is a common cause of 2nd trimester abortion
b- May be congenital
c- Is associated with previous instrumental delivery
d- is diagnosed at follicular phase HSG
e- is associated with painful abortion

The chromosomal abn. most often detected in 1st trim abort. is:

a- Turner syndrome.
b- Polyploidy.
c- Autosomal monosomy.
d- Autosomal trisomy
e- Unbalanced translocation

The incorrect statement regarding habitual abortion

a- No etiology is found in more than 50% of cases
b- The incidence is 1% of abortions
c- Genetic anomalies constitute the major cause
d- Asherman syndrome may be considered as a cause
e- Shirodkar cerclage has more hazards than McDonald

The following has proven benefit in recurrent abortions

a- Baby aspirin
b- folic acid
c- Thyroxin
d- Medroxy progesterone acetate (Provera)
e- McDonald suture

A 23-yr para 2 lady presents with abdominal pain. Her last menstrual period was 6 weeks ago, and a pregnancy test is positive. The specimen obtained at her laparotomy is most likely:

a- Incomplete abortion
b- Missed abortion
c- Hydatidiform mole
d- Tubal ectopic pregnancy
e- None of the above

Indications of therapeutic abortion don not include

a- Primary pulmonary hypertension
b- Advanced hypertensive vascular disease
c- Advanced chronic renal disease
d- HB A1c 5-8
e- Proliferative diabetic retinopathy

Case I (slide)

A 19 year-old lady complained of 2-days history of vaginal spotting & lower abdominal pain. She states that her period is 2 weeks late. On examination BPr. was 130 /70, pulse 70 bpm, temp 37°c. Abdomen is non-tender, no masses are palpated.

Pelvic examination reveals a bulky uterus which is not tender, there were no adenexal masses. Quantitative β-HCG level is 900 mIU/ml. transvaginal U/S revealed an empty uterus with no adnexal masses.

✣ **What are the key words in diagnosis?** β–HCG (700)…TVUS (empty)

✣ **What is the differential diagnosis?**

- *Threatened abortion* (although uterus is empty; the gestational. sac may be too small to be detected)
- *Ectopic pregnancy* (although adenexa is empty; the ectopic sac may be too small to be detected)

✣ What is the next step in management? Follow up

- β–HCG…. *Doubling* → denotes intact intra-uterine gestation
  . *Subnormal rise* → 66% rise: unhealthy sac / probable ectopic
  . *Reaches the transitional zone* → 2000: an uterine sac must be seen; otherwise, it is ectopic by exclusion
- TVUS……..a sac may appear (whether intra– or extra– uterine)
- Hct %……a drop may denote internal hge from disturbed ectopic
- Clinical…..appearance of adnexal swelling or acute abdomen occurs
- Laparoscopy✓…..should be considered → both diagnostic & therapeutic

✣ What is the value of β–HCG estimation?

Function	Uses
. Maintenance of Cl. (luteotropic)	. Diagnosis of pregnancy
. Immunological suppressive action	. Diagnosis of pregnancy abnormalities
. Stimulates fetal testosterone secret.	. Diagnosis and follow up of V. mole

✣ Finding no lines after using this test means

a- No pregnancy b- Positive pregnancy test
c- Spoiled test d- Test must be repeated after one week
e- None of the above

✣ All the following about HCG are correct except

a- It is a glycoprotein b- Has an α–subunit similar to FSH
c- Reaches peak at 20 wks d- It is produced by syncitiotrophoblast
e- It is thought to stimulate fetal testosterone secretion

Case 2 (slide)

A 35 year-old woman, 8 weeks' pregnant complained of crampy lower abdominal pain & vaginal bleeding. She stated that the pain was intense in the last night followed by passage of a large blood clot. After that both pain & bleeding subsided.

On examination BPr. was 110 /70, heart rate 70 bpm, temp 37.5 °c. Abdomen is non-tender, no masses are palpated. Pelvic examination revealed a 6-week sized uterus which is not tender, there were no adenexal masses. The cx was closed & non-tender.

✣ **What are the key words?**

- Pain & bleeding large blood clot pain & bleeding subsides
- No fever, uterus small, cervix closed

✣ **What is the most likely diagnosis?** complete # incomplete abortion

✣ **What is the next step in management? U/S**

- If no remnants → antibiotics
- If remnants are small → methergine is enough
- If large remnants ± bleeding → evacuation ($D_{\&}C$)

✣ **What are the complications of evacuation?**

- Anesthesia complications
- Hemorrhage: - Cervical lacerations
  - Uterine perforation
  - Retained products
  - Uterine atony
- Infection → Asherman syndrome
- Injury - Incompetent cervix
  - Uterine perforation
  - Bladder or intestinal injury

✣ **What are the pdf for perforation?**

- Soft, friable uterus (pregnancy....infection... malignancy)
- Doctor inexperience (excessive force or wrong direction)

✣ **If I told you, that this patient was found shocked in the road 2 days later, what you will do?**

- First of all a large bore cannula → anti-shock measures
- Careful clinical evaluation might discover:
  1- Perforation during D&C passed unnoticed → peritonitis → septic shock
  2- Disturbed ectopic pregnancy (a wrong diagnosis from the beginning)
  The blood clot was a decidual cast shedded during tubal disturbance

Case 3 (slide)

A 16 year-old un-married teenager underwent $D_{\&}C$ for an incomplete abortion 3 days previously. She complained of continued vaginal bleeding & lower abdominal cramping. Over the last 24 hours, she noted significant rise of temperature together with shills. On examination BPr. was 90 /50, heart rate 120 bpm, temp 38.6°c. Cardiac examination reveals tachycardia, lungs are clear bilaterally. There is moderately severe lower abdominal tenderness.

Pelvic examination showed a cervical os opened 1&½ cm, together with uterine tenderness. The TLC is 20.000 /mm³, Hb level was 11 gm/dl. Urine analysis showed 2 pus cells/ HPF.

❖ **What are the key words?** fever, leucocytosis....after $D_{\&}C$

❖ **What is the most likely diagnosis?**

- Mostly *Septic abortion* (tender uterus with opened cx)
- Consider *peritonitis* due to perforation (illegal inexperienced technique)

❖ **What is the next step in management?**

- *ICU transfer ⇨ elevation of the general condition*
  - . Monitoring.....CVP
  - . Fluids.....urine output & fluid intake chart
  - . Antibiotics.....combination in high doses (till result of $C_{\&}S$)
  - . Steroids.....restore cap. permeability + stabilizes lysosomes
- *U/S to detect* ⇨ remnants in the uterine cavity
  - ⇨ suction evacuation is better than $D_{\&}C$

❖ **What are the probable complications?**

Local	General	Organ affection
1- Endometritis	1- Septic thrombophlebitis	1- Septic shock, ARDS
2- Myometritis	2- Systemic pyaemia	2- Acute haemolysis (esp strept & clostr) + liver affection → jaundice
3- Salpingoophritis	3- Generalized peritonitis	3- DIC
4- Parametritis		4- Renal failure
5- Pelvic peritonitis		
6- Pelvic abscess		

❖ **What if there was suspected perforation**

.....Laparotomy after improvement of the general condition:

- If a small perforation in the uterus → repair
- If perforation is large + severe infection → hysterectomy may be considered (try to avoid as much at that age)
- Exploration of the whole bowel repair → repair

❖ **<u>All of the following about listeria monocytogenes, (Tru-Exc):</u>**

a- It may cause also meningitis
b- It can cause choriomanionitis without ROM
c- It leads to preterm labor
d- Septic abortion may result
e- It commonly leads to PID

Case 4 (slide)

A 22 year-old G_2P_{0+1} woman at 7 weeks gestation by LMP complains of vaginal spotting. She denies the passage of tissue per vagina, any trauma or recent intercourse. Her medical history is significant for pelvic infection after using an IUCD one year ago.

On examination BPr. was 110 /60, heart rate 90 bpm, temp 36.8°c. abdomen is not tender with normal active bowel sounds. On pelvic examination showed the cervical os closed & non-tender, uterus is 5 weeks in size with no adnexal tenderness.

The quantitative β-HCG is 2300 mIU/ml. Transvaginal sonogram reveals an empty uterus with no adnexal masses

- **What are the clues for diagnosis?** β-HCG (2300)…TVUS (empty uterus)
- **What is the most likely diagnosis?** undisturbed ectopic pregnancy
- **What is the most likely cause?** tubal adhesions resulting from infection (mostly due to the IUCD)
- **How to avoid infection after IUCD insertion?**
  - Aseptic technique during insertion ± prophylactic antibiotic
  - Cut the threads short
  - Inform the patient by the early signs of infection
- **What will be the future contraception for her?** avoid IUCD & progesterone containing agents (POP, implants)
- **What is the next step in management?** ….laparoscopy
- **Would you conserve or remove the tube?**
  - If tube is not damaged → *salpingotomy*
  - If tube is damaged → *salpingectomy* (preferred now by many)
- **Would you conserve or remove the ovary?** ….conserve:
  - It is still have another function (hormone production)
  - It could be safely separated from the tube
- **What is the alternative for laparoscopy? Methotrexate; if**
  - Sac size < 3 cm + no cardiac activity (non-viable)
  - β-HCG < 3000 mIU/ml
  - Patient haemodynamically stable
- **What is the prognosis** 15%: recurrence……30% infertility

Case 5 (slide)

A 36 year old para 5+2 has presented to the RR with repeated attacks of abdominal pain for the last 2 days. She has had an IUCD applied 8 months ago and she states that her period is 6 days late.

Three hours ago, she had a syncopal attack and has now begun to feel pain in her right shoulder. T 36.2, BPr 90/60, pulse 100 b/m. The abdomen is markedly tender esp in the lower part. On PV examination, there was marked tenderness

In ectopic pregnancy:

a- Bleeding precedes pain
b- Shoulders tip pain is an important symptom
c- The isthmus of the tube is the commonest site of implantation
d- The incidence is greater in women with IUCD
e- Ultrasonic scan is of no help in diagnosis

The following features suggest a diagnosis of ectopic pregnancy:

a) amenorrhoea of 14 weeks
b) Arias Stella reaction on endometrial histology
c) average sized uterus
d) heavy vaginal bleeding
e) decidual tissue at curettage

Lower abdominal pain in 1st 10 wks of pregnancy m.b.d.t except

a) acute appendicitis
b) an ectopic pregnancy
c) an impacted retroverted uterus
d) acute salpingitis
e) spontaneous abortion

Bleeding in early pregnancy could be caused by

a) An ectopic pregnancy b) Hydatidiform mole
c) Carcinoma of endometrium
d) Invasive carcinoma of the cervix
e) Cervical intraepithelial neoplasia

The following statement about ectopic pregnancy are true:

a) the ipsilateral ovary should be removed
b) a tender adnexal mass strongly suggests the diagnosis
c) the affected tube must be removed
d) diagnostic laparoscopy should precede laparotomy
e) negative culdocentesis for blood

Ectopic pregnancy

a) is commoner in the left fallopian tube
b) is commoner in IUCD users than in patients using no contraception.
c) is associated with pelvic endometriosis
d) is associated with injectible contraception
e) Spigelberg criteria diagnosis cornual pregnancy

Case 6

You are asked to review a 31-year-old nulliparous woman in the early pregnancy clinic. She first attended the clinic 7 days ago at 5 weeks amenorrhoea with mild right iliac fossa pain and vaginal spotting. A transvaginal U/S has revealed an empty uterus, and 3 serum b-HCG levels performed at 48 hours intervals have been reported as 505, 700 and 895 IU/L, respectively.

- What is the most probable diagnosis?
- What is next step?

Case 7

A 17 year teenager underwent medical TOP for an illegal 8 weeks pregnancy. She then bleed continuously for 3 weeks. U/S was done & showed a 50 x 20 mm retained products inside the uterine cavity. Three days after evacuation, she was transferred to the hospital with a generally ill & pale outlook. Examination showed Temp 38.5, intense abdominal distension with diffuse abdominal rigidity. She didn't pass flatus since the operation.

- What is the possible diagnosis
- What is the best management
- How to avoid such complication

Case 8

A 17 year teenager underwent E&C after being raped. She then bleed continuously for 3 weeks. U/S was done & showed a 4x2 cm retained products inside the uterine cavity. Another E&C was decided to remove these remnants. However, the patient was still bleeding postoperatively for 5 weeks. U/S was redone and showed a similar picture so a 3rd evacuation was done. Now the patient is represented to the emergency room with marked pallor, pulse: 120 bpm. U/S showed a bulky uterus with a fundal intramural mass 4x2 cm.

- What is the possible diagnosis
- What is the best management
- How to avoid such complication

Case 9

A female aged 32 years complained of delayed period for two weeks. Pregnancy test was +ve, U/S scan reported the presence of intrauterine retained products of conception.

A D&C and biopsy were performed. Pathology report indicates the presence of polypoidal hyperplastic endometrium only. Suddenly 3 weeks after the D&C, the patient collapsed at home with pale cold clammy skin.

Comment.....

Case 10

A 25 year old woman at 11 wks gestation complains of severe abdominal pain and feeling faint for the last hour. She had moderately vaginal bleeding that began yesterday morning. She is rheumatic with past history of mitral valve replacement and is receiving marivan 3 mg once daily. On examination: BPr :90/60, pulse 120 bpm, temp normal. Her abdomen is diffusely tender, distended with rebound tenderness and a fluid wave is present. The cervix is closed but there is boggy fullness of the Douglas pouch

- **What is the most likely diagnosis?**
- **What is your management for this patient?**

Case 11

A nulliparous 21 year old lady represents with abdominal pain occurring for the past 4 hours. She gives a history of fainting. She has a +ve pregnancy test. She has irregular periods and cannot recall her LMP. U/S showed a thick endometrium with no fetal pole inside the uterus. There is a small amount of free fluid in Douglas pouch. She complains of right adenexal pain with tenderness & rigidity. She is tachycardic and has normal blood pressure. Serum HCG is 2300 IU and Hb level is 9.5 mg%

- **What is the best management**

Case 12

A 28- year old who is para 2 presents at 12 weeks' gestation with repeated vomiting and malaise. Antiemetics were given but with no improvement in the general condition. Urine analysis showed +1 acetone and pus cells 2-5 /HPF. The patient started to experience fever and vague abdominal pain. U/S was normal, there was no vaginal bleeding. Liver function showed bilirubin 12 mg%, AST 100 IU, ALT 120 IU, elevated alkaline phosphatase.

- **What is your most likely diagnosis**

Case 13

A 28- year old lady with a missing period for 2 weeks is represented to you with lower abdominal pain. Preg test in urine was +ve. She has an episode of vomiting in the morning. On examination her temp is 37.7. There is no history of dysuria or vaginal bleeding. There is severe tenderness in her abdomen particularly in the right lower quadrant with guardining rigidity. Vaginal examination reveals a closed cervix with no tenderness or palpable adnexae. Blood results: Hb 11.2 .. TLC 17.000 /ml^3, CRP 88 units , HCG 2400 , AST 30IU , creatinine 0.5 mg%. U/S showed intact intrauterine gestational sac with no adenexal swelling.

- **What is your provisional diagnosis?**
- **What is the differential diagnosis?** • **How to confirm your diagnosis?**

Case 14

A 25-year old housewife, her LMP was on 1/6. On 16/8, she had a dark brown vaginal bleeding associated with bouts of lower abdominal colic and discomfort. Urine tests for pregnancy was +ve. The patient was advised to have bed rest and to take long acting progestogen IM twice weekly for two months. The bleeding & pain gradually disappeared.

On 2/11, she attended the ANC & she was worried because she had not felt any fetal movements and her gums easily bleed. The FHS could not be heard with the portable Doppler machine. The patient refused P/V examination

- What are the other causes of bleeding gums in a pregnant female

Hypertensive	*Death*	*Transfusion*
-	-	-
-	-	-
-	-	-

- Suggest a plan of management
  - ➡
  - ➡

<u>Per-vaginal discharge in a patient with abortion 6 wks ago and hemoptysis raises the suspicion of</u>

a- Remnants of evacuation
b- Subclinical perforation
c- Vesicular mole
d- Endometrial carcinoma
e- Choriocarcinoma

<u>A patient with a missed abortion (Tru-Exc)</u>

a) May present complaining of appearance of breast discharge
b) Has a significant risk of uterine haemorrhage due to coagulopathy
c) Will develop a septic abortion if uterus is not evacuated
d) Usually has a uterus equal to her dates
e) Often presents with a brown vaginal discharge

<u>Case scenario: 6 wks, yolk sac +ve, mild bleeding may be due to:</u>

a- Inadequate progesterone production
b- Class A1 DM
c- Incompetence of the internal cervical os
d- RH –ve mother not receiving her anti-d
e- Hypoplastic uterus

Abortion

Write short notes on

- Types and management of abortion
- Diagnosis & treatment of threatened / inevitable / missed /septic
- Recurrent abortion: etiology, investigations and management
- Cervical incompetence
- Evaluation of cx incompetence as a cause of habitual abortion
- How would you investigate habitual abortion in the second trimester of pregnancy
- Immunological factors in abortion
- Differential diagnosis of bleeding in early pregnancy
- Differential diagnosis & management of 1st trimester abortion
- Differential diagnosis between threatened abortion & ectopic pregnancy

Enumerate

- Clinical types of spontaneous abortion
- Criteria of diagnosis of a case with threatened abortion
- Causes of recurrent abortion

Ectopic

Write short notes on

- Diagnosis, DD and ttt of acutely dist ectopic
- Symptoms & signs of ectopic
- Fate of tubal preg
- Differential diagnosis of types of tubal pregnancy
- Update diagnosis & management of ectopic
- Modern ttt of ectopic
- Differential diagnosis of acutely disturbed ectopic

Enumerate

- Risk factors for ectopic
- Possible outcomes of tubal pregnancy .
- Varieties of clinical presentations of tubal pregnancy

Vesicular mole

Write short notes on

- Clinical picture of molar pregnancy
- Diagnosis & complications of molar pregnancy
- Diagnosis & ttt of gestational trophoblastic disease

2

Antepartum Hge

- Placenta previa
- Accidental He

+ UTI
  Anemia
  Vomiting

❶ Antepartum hemorrhage

Introduction

Bleeding from the genital tract after 28 (20) wks till before delivery of the fetus from either

- A placenta situated in the LUS → placenta previa
- Normally situated placenta → accidental hemorrhage

Etiology

* Of placenta previa
  - Delayed development of chorion frondosum.
  - Delayed disappearance of zona pellucida.
  - Persistence of villi in decidua capsularis
  - Large placenta: Twins, D.M., RH, placenta membranacea

* Of accidental hemorrhage
  - Maternal disease e.g. PET
  - Sudden decrease in intrauterine pressure:-
    . After delivery of first twin
    . After sudden ROM in polyhdraminos
  - Trauma to the abdomen e.g. accident, ECV

Pathogenesis

- In placenta previa, bleeding occurs due to stretch of LUS (shearing mechanism) and it is classified according to its site into:
  - PP lateralis 1^{sto} (60%)
  - PP marginalis 2^{ndo} (30%)
  - PP centralis incomplete 3^{rdo} (7%)
  - PP centralis complete 4^{tho} (3%)

- In accidental hemorrhage; a retroplacental hematoma forms with automatic extension inbetween myometrial fibres (Couvelaire uterus). According to external bleeding it is classified into
  - Concealed (10%)
  - Revealed (30%)
  - Mixed (60%)

Clinical picture

Symptoms

- Causeless, painless, recurrent fresh bright red bleeding is characteristic of placenta previa
- Sudden, severe, continuous abdominal pain is characteristic of accidental hemorrhage. Bleeding may be absent

Signs

- General
  - . Anemia or shock (acc. to degree & rate of bleeding)
  - . PIH, signs of complications e.g. DIC in accidental
- Abdominal
  - . Fundal level → larger than period of amenorrhea in accidental
  - . Umbilical grip → soft uterus, not tender
    Board like rigidity in accidental
  - . Pelvic grip → non- engaged head, malpresentations
    Normal presentation + engaged head
  - . Auscultation : According to severity
- Vaginal examination is Contraindicated

Complications

- Complications of placenta previa
  - . Pregnancy → Preterm labor (inevitable or iatrogenic)
  - . Labor
    - 1^{st} stage → Intrapartum hge → uterine inertia → prolonged labor
    - 2^{nd} stage → obstructed labor (malpresentations are common)
    - 3^{rd} stage → Postpartum hge (Atonic, traumatic, retained placenta)
  - . Puerperium → S3
- Complications of increased uterine tone in accidental hemorrhage
  - . Couvelaire uterus (utero-placental apoplexy)
  - . Rupture uterus → intra-peritoneal haemorrhage.
  - . Amniotic fluid embolism
- Complications of the etiology e.g. preeclampsia
- Complications of shock → renal failure, Sheehan syndrome, DIC
- Fetal → PTL, CFMF, IUGR, IUFD

Investigations

1. U/S for placental localization which is repeated serially every 2 weeks to detect upward placental migration
2. Etiology → preeclampsia
3. Complication → DIC, renal function tests

Treatment

[1] Placenta previa

- Conservative (in the hospital)
  - Indication → Mild bleeding, Fetus < 37 wks, Mother not in labor
  - Aim → keep the condition under control until fetal maturity .

1.Mother:

- Bed rest, no P/V, no vaginal douching
- Correct anemia by diet, iron ± blood transfusion

2.Fetus :

- Give steroids for lung maturity
- Serial tests for fetal well being

3.Placenta : follow up placental migration by U/S

- Termination
  - Indication → severe bleeding, fetal maturity or distress, spontaneous labor
  - Method

Anti-shock measures

Birth either

. Vaginal if bleeding is severe & is 1st or 2nd degree

. Cesarean if bleeding is severe or 3rd to 4th degree

Complications e.g. shock, postpartum hge

[2] Accidental hemorrhage → Termination

- *Very rare* to conserve (chronic placental abruption)
  As once abruption occurs → automatic extension

- *Anti-shock measures*
  + Treatment of etiology (PET) & complications (DIC)

- *Delivery* by:

1) Vaginal if
   - Well-controlled maternal & fetal conditions & delivery is expected soon.
   - Usually *easy* (well engaged head) & *rapid* (increased basal uterine tone)

2) Cesarean section
   - Maternal or fetal distress & delivery is not expected soon
   - Other obstetric indications for CS

❷ Acute abdomen in obstetric

Etiology

❶ Pregnancy
- Early.....abortion, ectopic, incarcerated gravid RVF uterus
- Late.....accidental hge, rupture uterus, acute fatty liver
- Masses
  . Complicated ovarian (ruptured CL cyst or TL cyst of V.mole)
  . Complicated fibroid (red degeneration)

❷ Urinary ⟶ cystitis, pyelonephritis, stones (renal colic)
❸ GIT ⟶ gastroenteritis, viral hepatitis, food poisoning
❹ Surgical ⟶ acute appendicitis, acute cholecystitis, perforated DU
❺ Medical ⟶ DKA, sickle cell crisis, acute porphyria, mesenteric vasc. occlusi

Diagnosis

❶ History

- Present (amenorrhea, +ve B-HCG) &
  . *Pain* & collapse in 1st trimester → disturbed ectopic
  . *Pain* & collapse in 3rd trimester → accidental hge
  . *Bleeding* followed by colicky pain → inevitable abortion
  . *Jaundice* → viral hepatitis, acute fatty liver
  . *Vomiting* →gastroenteritis, food poisoning
  . *Melena* → perforated DU

- Past
  . Obst → FET, accidental hge, weak scar, fibroid
  . Medical → DM sickle cell anemia, previous UTI
  . Surgical → appendectomy or not

❷ Examination

- General
  . BPr → PET
  . Associated shock
    * Not proportional to ext bleeding (ectopic, rupture uterus)
    * Proportional to ext bleeding (inevitable abortion)
    * Neurogenic element (accidental he, red degeneration)
  . Fever → acute inflammation
  . Jaundice → viral hepatitis, acute fatty liver

- Abdominal
  - . Generalized T, R, RT → internal hge (acute disturbed ectopic)
  - . Tonic cont uterus → accidental he
  - . Tender mass → complicated ovarian or fibroid
  - . Tender renal angle →UTI
  - . Tender liver → viral hepatitis

- Local
  - . Tender adnexal swelling →ectopic
  - . Opened cervix → inevitable abortion
  - . Incarcerated → RVF gravid uterus

❸ Investigation

- Laboratory
  - . CBC
  - . Blood sugar
  - . Urine analysis
  - . Organ function tets (liver & kidney)
  - . Hepatitis markers

- Scanning
  - . Pelvi-abdominal U/S

Management

- Resuscitation
  - . Blood transfusion ± Fluids
  - . Corticosteroids

- Medical
  - . Analgesic & fluid in → red degeneration of fibroid
  - . Liver support in → viral hepatitis
  - . Improve general condition then by TOP in → acute fatty liver
  - . Sugar control in → DKA

- Surgical
  - . Laparotomy
    - Salpingectomy → ectopic
    - Supravaginal hysterectomy → rupture uterus
    - Adnexectomy complicated →ovarian mass
  - . McBurney's incision for appendicectomy
  - . D&C for inevitable abortion

❸ Discuss complications of accidental hge.

Introduction

It is BLEEDING from the genital tract of placental site origin
AFTER 20 / 28 wks & BEFORE delivery of the fetus
DUE TO separation of a normally situated placenta
AND IS MAINLY caused by Pregnancy induced hypertension

Complications

1) MATERNAL...shock, DIC, Couv. uterus, rupture uterus, AF embolism
2) FETAL...PTL, IUFD
3) **Complications of preeclampsia**

❶ Shock

- *Etiology*: Massive shock may occur with maternal collapse (MMR =1%) which is mainly due to
  1-APhge (injury of vessels in the choriodecidual space → retroplacental hematoma → *automatic* extension due to rupture of more vessels by the collecting hematoma → more expansion of the hematoma)
  2- PPhge (atonic, traumatic, DIC)

- *Clinical picture*: Diagnosed by rapid deterioration of general condition but shock may not correspond to the external bleeding (due to internal hemorrhage). Also note that arterial blood pressure may be apparently normal i.e. hypotension due to shock is masked by PIH (decapitated B.pr.) ∴ Hypovolemia is better detected by CVP

- *Complications*: Shock may be complicated by
  1- Renal failure (shock + PET + DIC)
  2- Sheehan syndrome (due to hypoxia of the anterior pituitary lobe which is exaggerated by shift of blood to the posterior lobe oxytocin during labor)

- *Management*: should include rapid resuscitation but the definitive pathophysiology process will be aborted with termination of pregnancy. Resuscitation must include the following steps:-
  1- General
    - Intravenous cannula..... Analgesia
    - Raise legs.....O_2 inhalation..... Warmth
  2- Monitoring
    - Catheterization (urine should not be < 30 ml/hr)
    - CVP (kept between 8–12 cm H_2O)
  3- Replacement.....start by available fluids till blood is ready
  4- Drugs.....vasopressors, corticosteroids, correct acidosis

❷ DIC

- *Etiology*: release of tissue thromboplastin + consumption of the clotting factors within the hematoma → will lead to DIC

- *C/P*: Diagnosed by proper anticipation (presence of pdf e.g. abruptio placenta) +
  - Thromboembolism → pulmonary, renal, ... infarctions
  - Bleeding tendency → petechiae, hematuria, PPhge, ...

- *Investigations*
  1- Coagulation profile:
     - Platelet count (N: 250,000/ml)
     - Fibrinogen (400-600mg%)
     - Fibrin degradation products or D-dimers
  2- Prolonged
     - Bleeding time (N: 2-4 min)
     - Clotting time (N: 6-12 min)
     - Prothrombin time (N: 12 sec.)
     - Partial thromboplastin time (N: 35-45 sec)

- *Management*: TOP after correction of the coagulation defect
  Fresh blood transfusion
  Fresh Frozen Plasma (fibrinogen + coagulation factors)
  Cryoprecipitate (dried fibrinogen or some coagulation factors)
  Platelet transfusion

❸ Couvelaire & rupture uterus

- *Etiology*: Blood may escape between muscle fibres of myometrium (uteroplacental apoplexy) → black flabby uterus incapable to contract. Extension of blood may produce ecchymoses below peritoneum or even rupture uterus & internal hemorrhage may occur

- *Diagnosed by* sudden development of acute abdomen with severe abdominal tenderness and rapid deterioration of general condition. External hemorrhage may occur. FHS are usually unheard at that time.

- *Managed by* Laparotomy to perform hysterectomy after proper resuscitation. Rarely repair may be done if the patient is young with clean cut small tear.

❹ Amniotic fluid embolism

- *Diagnosed by*
  - *Suspected in* → any case of sudden postpartum collapse & DIC
  - *Proved by* → finding AF debris (fetal squamous cells, lanugo hair, vernix) in the pulmonary vessels by autopsy
  - *Investigations* → ECG, chest X-ray, ventilation/perfusion scan

- *Management*
  - *Very difficult* → only few cases succeed
  - *Immediate transfer to ICU* ↘ – Cardio-pulmonary support
    – Management of DIC
    – Corticosteroids
    – Monitoring different organs

❺ Preterm labor

- If occurred proper neonatal resuscitation by an expert should be available with ready neonatal ICU (IUGR may be also present due to the associated PET)

❻ Complications of PET such as

- *Organ failure* e.g. heart, renal, suprarenal, hepatic failure
- *Haemorrhage in vital organs* e.g. IChge, retinal hge.
- *Eclampsia* → high MMR (10%) due to asphyxia, acidosis, pyrexia

Prophylaxis of all these complications

Once accidental hemorrhage is diagnosed, the best management is TOP either

1- Vaginal if:

- Well-controlled M & F conditions & delivery is expected soon
- Usually easy (well engaged head) & rapid (↑ed basal uterine tone)
- Early AROM ± oxytocin

1st stage → continuous monitoring (F & M)
2nd stage → usually rapid
3rd stage → guard against PPhge

2- Cesarean section if

- Maternal or fetal distress & delivery is not expected soon
- Most Important → coagulation defects should be corrected first
- Hysterectomy → in severe atony or Couvelaire or ruptured

Nermin Aly El-feky, 30 years, P_{2+0}, 34 wks, cephalic, not in labor, Antepartum haemorrhage, Placenta previa

C/O: The patient is hospitalized 2 weeks ago due to recurrent attacks of vaginal bleeding

Menstrual history:

- The 1st day of LMP was on 28/ 1 / 2010. She is sure of that date as the cycles before that were occurring regularly with a D/C....4 / 30
- This makes her expected date of confinement on 5 / 11 / 2010 (*according to Naegel's rule*)
- This makes her pregnant now at 34^{+5} weeks

Obstetric history

- *The 1st delivery was:* 6 years ago, a boy, full term, average weight, delivered by CS (*mention why*) at El-Demerdash hospital, he's living and well, breast-fed with no ante– or post– partum complications .
- *The 2nd delivery was:* 3 years ago, a girl, full term, average weight, delivered by CS (*mention why*) at El-Demerdash hospital, he's living and well, breast-fed with no ante– or post– partum complications

History of present pregnancy:

- *How did she know that she is pregnant?*
  - She is pregn. now at 34 wks. She knew pregn. after.....
  - Pregnancy was confirmed by a .....
- *How did she mange that pregnancy?*
  - Then the patient have started a regular program.....
  - Routine check-up was done in the form of .....
- *What occurred in the 1st trimester?*
  - During the 1st trimester, the patient suffered from vaginal bleeding, lower abdominal colicky pain. Bleeding was not related to trauma or sexual intercourse & the patient was diagnosed to have threatened abortion. She was advised to have bed rest & was given some medications twice daily. Two weeks later, bleeding stopped spontaneously
  - However there were no symptoms suggestive of hyperemesis gravidarum, UTI, abnormal discharge

- *How did the patient know that she entered the 2nd trimester?*
  - Then the patient noticed gradual enlargement of her abdomen
  - She also started to feel her fetal kicks at the 5th month
- *What occurred in the 2nd trimester?*

  In the second trimester, routine follow up of pregnancy was done, there were no symptoms suggestive of any abnormality as
  - Maternal disease.....PET, Bl. sugar (DM), heart (Pump) dis.
  - Pregnancy disease.....PTL, P.previa, polyhdramnios, PROM

All that was the "stumba". Where is the patient story?

- *How did she discover the condition, what are the drugs taken?*
  - One month ago, she started to suffer from recurrent attacks of vaginal bleeding *(onset)*. This bleeding was painless, not related to trauma or sexual intercourse, few spots, bright red in color with no clots.
  - There were no fainting attacks *(to know effect of bleeding)*, no bleeding from other sites *(to exclude general cause of bleeding)*, no preceding trauma *(to exclude a possible local cause)*
  - The patient sought medical advice 2 weeks ago. U/S was done & proved the placenta previa condition. The patient was referred to El- Demerdash hospital and since then she is hospitalized with complete bed rest.
  - Bleeding attacks became less frequent *(course)* occurring once daily, the patient changes only one napkin which is just stained with blood.
  - There were no decreased fetal kicks i.e. fetal distress, lower abdominal pain i.e. PTL, gush of fluidy vaginal discharge i.e. PROM – *(complications of bleeding)*

All the above key words should be mentioned in analysis of any case of bleeding

- *What are the investigations done during hospitalization?*

  The patient is kept under observation for trial to control her condition by following up of
  - BLEEDING by repeated Hb check & following up her vital data
  - FETAL CONDITION by repeated U/S & Doppler examinations

- *Review of other body systems was irrelevant*

Oral questions

- **What is your diagnosis? Please state it right:** *Nermin Aly El-feky*, 30 years old, she is P_{2+0} pregnant at 34^{+5} wks, cephalic, not in labor, antepartum haemorrhage, mostly placenta previa
- **How do you confirm placenta previa?** U/S, no PV should be done
- **What is the indication for PV?** if she is in labor & U/S detected a minor degree allowing the possibility of VD; but done in the theatre with available blood (double set-up)
- **Why the bleeding started at 30 weeks?** maximum time for LUS stretch
- **When bleeding could not be *recurrent*?**
  - If labor occurred
  - If a small part is just dipping in the LUS
- **Could the patient be discharged after 2 weeks from now?** Yes; if U/S follow–up proved upward placental migration
- **What are the other types of APHge? How to exclude them?**
  - *Accidental hge* → pdf (PET) + sudden severe pain & collapse
  - *Rupture uterus* → pdf (weak scar) + sudden severe pain & collapse
  - *Vasa previa* → U/S & Doppler
  - *Local gynecological association* → seen by local cusco speculum
  - *Excessive show, marginal sinus bleeding* → known by exclusion
- **How could you exclude accidental hge by the phone?** acute abdomen
- **What is the most important procedure to do for this patient in the emergency room?** wide bore cannula + anti-shock measures
- **What will you do for this patient?**

  <u>Hospitalization & follow up of</u>

  - *Mother* → bleeding attacks + elevate her Hb
  - *Fetus* → follow up growth (U/S, BPP, CTG, Doppler ± cortisone)
  - *Placenta* → follow up migration (U/S)

- **For when you will conserve her?**
  - *Mother* → become in labor
  - *Fetus* → become distressed
  - *Placenta* → severe bleeding
- **What will be the route of delivery?**
  - *CS* (mostly) in major degrees & severe bleeding
  - *VD* (less) in minor degrees & mild bleeding
- **What is the major problem you might face during CS?** placenta accreta
- **How to manage it?** supra-vaginal hysterectomy
- **Is there is any alternative?** yes; in few limited cases where there is low parity → placenta might be left + methotrexate
- **What are the other causes for hysterectomy?** severe uncontrolled atony threatening life
- **Could she bleed after delivery? Why?** Yes: PPHge due to:
  - *Atonic* → LUS is weaker than UUS
  - *Retained* (5%) → LUS have no Nutabuch layer
  - *Traumatic* → during trial of removing an adherent placenta
- **What are the precautions to be taken before delivery?**
  - *Blood bank*
  - *Both maternal & neonatal ICU*
  - *Expert surgical team*
  - *Consent for hysterectomy*
- **What are the risk factors for placenta previa?**
  - *Multiparity, old age* → (theories for defective implantation)
  - *Twins, DM, RH incompatibility*
- **What is low lying placenta?** Lower margin of the placenta lies in LUS but not reaching the margin of internal os (at least 3 cm away) → mostly will migrate up
- **Could the condition be recurrent?** yes: 4 – 8%

Case I

A 22 year-old G_1P_0 woman at 35 weeks' gestation presented with sudden attack of severe abdominal pain. She suffered from a gush of vaginal bleeding during transfer to hospital. There was no history of abdominal trauma. There was no leakage of fluid per vagina.

General examination reveled BPr. 130 /80 and heart rate 110 bpm, temp 36.9°c, ++ proteinuria. On abd examination, the fundus revealed tenderness. U/S examination was normal with fetal heart rate ranged from 140 – 150 bpm. PV was done & the cervix was 3 cm dilated. Many blood clots were found in the vagina.

- **What are the clues?** APHge + pain
- **What is the most likely diagnosis?** Accidental hge.
- **Is the patient shocked? How? How to confirm?** yes (tachycardia; BPr. was originally elevated by PET: decapitated).....shock is best assessed by CVP
- **What is the first line of management?** resuscitation
- **Why U/S was done?** To exclude placenta previa
- **Why albumin was done?** To diagnose PET: the commonest cause
- **How you will manage the case?** Allow VD by AROM; as
  - *The patient* → is early in labor
  - *No fetal distress*
  - *Cautious maternal & fetal* → must be done
- **Why ROM must be done?**
  - *Relieve* → the high intra-amniotic pressure
  - *Reveal* → the concealed hematoma
  - *Release* → PG to accelerate labor
- **When to do an emergency CS?** if maternal or fetal distress developed
- **Could she bleed after delivery? Why?**
  - *Atonic* → poor general condition + Couvelaire uterus
  - *Traumatic* → rupture uterus
  - *DIC* → due to thromboplastin release from the hematoma
- **What are the most rapid cause of death?** Amniotic fluid embolism
- **Define maternal mortality**

  The death of any woman d.t. any cause (in preg. & puerp.)

  Regardless the duration or site of pregnancy

  From any cause related or aggravated by preg. or its management

  But not from accidental or incidental causes

$$\text{MMR} = \frac{\text{number of maternal death in one year}}{\text{number of total births in the same year}} \times 100.000$$

Case 2 (slide)

A 36 years old G5 P4 woman at 32 weeks gestation complains of significant bright red vaginal bleeding. She denies uterine contractions, leakage of fluid or trauma. The patient states that 4 wks previously, she experienced some vaginal spotting after engaging in sexual intercou-se. The patient was vitally stable, the abdomen is soft and uterus non-tender. Fetal heart tones range from 140-150 bpm. U/S was done as shown, all are true except?

a) It is associated with an increased of fetal mortality
b) It is associated with increased IUGR
c) if anterior, may be treated by classical CS
d) It becomes symptomatic for the first time in labor in most of cases
e) Is more common in multiparous old women
f) Breech presentation is common at that time

The patient was hospitalized for this condition and was counseled that this condition may be associated with all except:

a) Is more common in multiparous patients
b) Its incidence increases with maternal age
c) Immediate hospital admission is indicated only in severe bleeding
d) It may predispose to PPHge
e) The initial haemorrhage is usually fatal
f) Preterm labor is a common association

Consent for hysterectomy was taken, Hysterectomy may be done due to all the following situations except

a) Uterine atony
b) Placenta accreta
c) Couvelaire uterus
d) Lacerated lower uterine segment

Four weeks later, the patient was discharged as the placenta migrated upwards. During her delivery, she complained from recurrent gush of mild bleeding, the patient was vitally stable, but FHS were persistently 90 with type II decelerations. All are true except

a) It is a common safe anomaly of the placental circulation
b) It occurs with circumvallate placenta
c) Bleeding is directly from the fetus
d) Fetal mortality with VD is lower than CS
e) Complications are mainly maternal

As regards this situation (arrow), the correct statement is

a- Is usually manifested by recurrent bleeding
b- Is a common cause of APHge
c- Vaginal delivery is safe
d- Condition must be excluded at RR by PV
e- It can be diagnosed by Doppler US

Case 3 (slide)

A PG, 26 yrs old, married for 2 yrs. When she was 33 wks pregnant, she experienced severe diffuse abdominal pain with no vaginal bleeding and the fetal movements stopped. Two hours later she was transferred to hospital with BPr 80/40, pulse 130 b/m, T 36 & very pale. Uterine fundus reached the xiphi-sternum, very tender uterus to the extent that you cannot feel the fetal parts. FHS not audible & the cervix was closed with no bleeding. Emergency CS was decided after rapid resuscitation

1- Which is not a feature of such situation (star)

a- Abdominal pain
b- Placenta previa
c- Maternal distress
d- Lax uterine muscles
e- Obstructed labor

2- This hematoma (arrow) was found on inspection of the maternal side of the placenta after delivery. The risk factors for this condition don't include

a- PET
b- Smoking
c- Folic acid deficiency
d- Iron deficiency anemia
e- Previous placental abruption
f- External trauma to the abdomen

3) Abruptio placentae is associated with a fall in all (except)

a) Factor V & VIII
b) Fetal heart sounds
c) Fibrinogen degradation products
d) Blood pressure
e) Blood flow to the cortical nephrons

What are the other causes of acute abdomen with pregnancy

❶ Pregnancy	
☆ Early	Abortion, ectopic, incarcerated gravid RVF uterus
☆ Late	Accidental hge, rupture ut, acute fatty liver, acute polyhdr
☆ Masses	- Complicated ovarian mass (ruptured TL cyst of V.mole) - Complicated fibroid (red degeneration)
❷ Urinary	Cystitis, pyelonephritis, stones (renal colic)
❸ GIT	Gastroenteritis, viral hepatitis, food poisoning
❹ Surgical	Acute appendicitis, acute cholecystitis, perforated DU
❺ Medical	DKA, sickle cell crisis, acute porphyria, mesenteric v. occ.

Case 4

A 40 year old patient had five normal deliveries and three spontaneous abortions. The last abortion was 8 months ago. She is complaining of prolonged irregular vaginal bleeding for the last few months.

Suddenly in the last few days, she had hemoptysis & vaginal examination revealed a slightly enlarged uterus. Pelvic U/S showed bulky uterus with irregular uterine cavity and bilateral cystic ovaries 4x5 cm

- What is the most likely diagnosis
- How to confirm
  - →
  - →
  - →
- What is the ideal treatment

Case 5

A 19 year old PG has come to the RR with severe vaginal bleeding of one hour duration. She is pale with BPr 90/50, pulse 120 and T 36. Her LMP was 10 wks earlier but the fundal level is at the umbilicus. An immediate U/S scan was ordered and the uterus was markedly enlarged with no fetus inside. The ovaries were also enlarged.

The patient was then treated and was scheduled for follow up. Three days later, the patient developed severe lower abdominal pain and laparotomy was performed to remove an ovary

- What is the most likely diagnosis?
- What was the initial ttt and how you follow up this patient
  - →
  - →
- What was the possible picture seen in the uterus by U/S
- What has happened to necessitate laparotomy?

- If the patient hadn't developed an acute abdomen, how would you manage the enlarged ovaries

Case 6

A 32 years old, PG, married for 2 years, her L.M.P was on 22/4. During the course of pregnancy she suffered from recurrent UTI, on 2/11 her B.P was elevated to 160/95 with heavy proteinuria.

- Why UTI is common in pregnancy
- What is the DD of proteinuria with pregnancy
- How to screen for development of PET & what is the prophylaxis

Case 7

A 37 year old PG pregnant at 34 weeks presented to the RR with upper abdominal pain. On examination her blood pressure was 170/110 mmhg, edema of lower limbs and tinge of jaundice was observed

- What is the probable diagnosis?
- What investigations would you perform to certify the diagnosis
- What is the plan of managent?
- What are the other causes of jaundice in pregnancy?

Pregnancy induced	Pregnancy associated
- PIH & HELLP syndrome	- Hemolytic J.
- Severe hyperemesis gravidarum	- Obstructive J.
- Intrahepatic cholestasis of preg	- Hepatocellular (VH✓, cirrhosis)
- Acute fatty liver of pregnancy	- Drugs

1- All the following about intra-hepatic cholestasis with pregnancy are true except

a- It is the commonest liver disorder peculiar to pregnancy
b- Prognosis is better than acute fatty liver
c- Suspected by intense itching
d- Cholestyramine is contraindicated in pregnancy
e- It may lead to preterm labor

2- All the following about anemia with pregnancy are true except

a- Diagnosed when hemoglobin is < 11 gm%
b- More in multiple pregnancy than singleton pregnancy
c- Serum ferittin decreases
d- Transferrin decreases
e- RBC's volume increase in normal pregnancy by 20-30%

Ante-partum hemorrhage

Write short essay on

- How do you manage a pregnant patient at 34 wks complaining of bleeding from genital tract?
- Treatment of antepartum hemorrhage
- Complications of accidental hemorrhage
- Differential diagnosis between placenta previa & accidental hemorrhage
- Classification of placenta previa
- Diagnosis of placenta previa
- Management of placenta previa
- Vasa previa

Enumerate

- Causes of antepartum hemorrhage
- Risk factors of accidental hemorrhage
- Maternal & fetal complications of accidental hemorrhage

Vomiting, UTI, anemia

Write short essay on

- Vomiting in early pregnancy
- Management of hyperemesis gravidarum
- Iron deficiency anemia with pregnancy
- Treatment of iron deficiency anemia with pregnancy
- Differential diagnosis of acute abdomen during pregnancy

Enumerate

- Causes of hyperemesis gravidarum
- Predisposing factors for acute pyelonephritis in pregnancy
- Causes of acute abdominal pain during third trimester
- Causes of abdominal pain during pregnancy

3

High Risk Preg.

- PET
- DM
- Heart dis.

Discuss complications of PET

Definition

- Occurrence of Hypertension, Proteinuria, pathological Edema in the 2nd half of pregnancy in a previously healthy woman.
- It is the commonest ✓ medical disorder in pregnancy (5 – 10%)
- It is predisposed to more in
  - PG, extremes of age, obese patients, +ve family history
  - Twins, polyhdramnios, vesicular mole, hydrops fetalis, APS
  - D.M., chronic hypertension, chronic nephritis, SLE

Main pathology

- It is mainly characterized by vasospasm + endothelial cell injury → hypertension + hypoxic injury → degeneration of cells & hge
- Multiple organs are involved. ∴it is a syndrome (not a disease) and……Hypertension….. is the milestone of this syndrome

Complications

❶ **Maternal** (the 2nd cause of MMR)

▸ Immediate

- **CNS** → eclampsia, cerebral hge / infarction, cerebral edema
- **Retina** → papilledema & retinal hge (stellate) → detachment
- **CVS** → hypertrophy of heart (cardiomegally) up to acute HF
- **Resp** → laryngeal edema, pulmonary edema
- **Liver** → Mainly periportal necrosis → Jaundice, rupture capsule
- **Kidney** → * Damage of glomeruli → proteinuria → edema
  * Two major complications may occur
    . Renal tubular necrosis (reversible)
    . Renal cortical necrosis (irreversible)
- **Adrenal** → acute adrenal failure → Addisonian crisis
- **Metabolic** →
  * Salt & H_2O retention
  * Haemoconcentration ¤ (↓ intravascular volume ¤)
  * HELLP syndrome in severe cases
    ↘ **H**emolytic anemia, **E**levated **L**iver enz., **L**ow **P**latelet

▸ Remote

- Residual hypertension or proteinuria (5–10%)
- Recurrence (MG) 30–50%

❷ **Fetal & placental**

▸ IUGR & IUFD

▸ PTL (idiopathic or iatrogenic)

▸ Abruptio placenta → DIC

Management of complicated (severe) PET

Diagnosis

- Symptoms
  - . Neurological symptoms (headache, N & V, blurring of vision
  - . Epigastric pain → stretch of liver capsule
  - . Oliguria (<400 ml /day) & Anuria (<100 ml /day)
- Signs:
  - . Hypertension (systolic ≥ 160…diastolic ≥ 110)
  - . Proteinuria (sever if ≥ 500 mg/dl or > 5gm/d)
  - . Edema (manifested or even dry)

Treatment

- Hospitalization
  - . In eclampsia room (patient lies on her side in a semi-dark quiet room with available oxygen, mouth gag, suction)
  - . Observation for (vital signs & level of consciousness)
- Antihypertensive therapy
  - . The aim is to prevent maternal intracranial hge or HF; but keep diastolic BPr between 90-100 mmHg
  - . May give hydralazine, labetalol (Trandate), nefidipine (adalat), diazoxide
  - . Also: Nipride (Na nitroprusside) or Tridil (Nitroglycerine)
- Anticonvulsant therapy.....Magnesium sulfate
  - . Route ⇨ 4–6 gm slowly IV (over 15-20 m) then 1-2 gm/hr p
  - . Duration ⇨ continue therapy for 24-48 hrs after delivery
  - . Action ⇨ peripheral muscle relaxant (↓ A.Ch, Ca^{++} at NMJ)
  - . Toxicity ⇨ absent knee reflexes, resp. / cardiac depression
  - . Antidote ⇨ Ca^{++} gluconate slowly 10ml 10% solution
- Termination
  - . Induction or augmentation of labor: if delivery is expected rapidly
  - . Cesarean section: better to be done 2-4 hours from last fit → to allow time for compensatory mechanisms to overcome the severe metabolic acidosis

Management of eclampsia

Diagnosis ⇨ occurrence of fits (grand-mal-seizures) in a patient with PET

Stages

- Premonitory (3–5 min) twitches of eyes, severe headache
- Tonic phase (30 sec) all muscles of body pass into spasm
- Clonic phase (3–5 min) intermittent cont. & relaxation of ms
- Coma stage (d.t. severe acidosis) may recover or die

Causes of death

- Asphyxia d.t. tonic contraction of resp ms or inhalation of vomitus
- Severe metabolic acidosis
- Hyperpyrexia

Criteria of severity

- Fits → recurrent (esp >6) & postpartum...Coma → long & deep
- Vital data → BPr: 160 / 10, pulse >120, T > 38°c, RR > 40 /min
- Oliguria, Anuria, dry eclampsia, HELLP syndrome

Treatment ⇨ the same lines as in severe PET

Management of IUGR

Definition ⇨ it means pathological restriction in the ability to grow with birth weight < 10th percentile due to placental insufficiency

Diagnosis ⇨ . Difference between EGA & U/S > 2 wks
. Delay in serial U/S measurements by > 2 wks

Treatment

- Empirical therapy
  - . Aspirin.....daily aspocid
  - . Heparin.....5000 units SC /12 hrs (prophylactic dose)
  - . Corticosteroids...enhance fetal lung maturity
- Follow up of
  - . Growth ⇨ by serial U/S every 1-2 weeks (also for AFI)
  - . FWB ⇨ CTG, BPP and Doppler
  - . Lung maturity ⇨ amniocentesis
- Termination when
  - . Disease ⇨ CTG or BPP is pathologic
  - . Fetus ⇨ lung is mature
  - . Mother ⇨ complications occur e.g. severe oligohydramnios

Management of abruptio placenta

Diagnosis

- Symptoms ⇨ sudden, severe, continuous abdominal pain
- General ⇨ shock (hypovloemic + neurogenic in concealed)
- Abdominal ⇨ ↑ basal uterine tone (board like rigidity)

Treatment .... once diagnosed, the best management is TOP either

1- Vaginal if:
- Well-controlled M & F conditions & delivery is expected soon
- Usually easy (well engaged head) & rapid (AROM ± oxytocin)

2- Cesarean section if
- Maternal or fetal distress & delivery is not expected soon
- Most Important → coagulation defects should be corrected first
- Hysterectomy → in severe atony or Couvelaire or ruptured

Melisa Ahmed El-sayed, 20 years, G_1, P_0, 35 weeks, cephalic, not in labor, Pregnancy Induced hypertension

C/O:

- The patient is REFERRED to our hospital due to ACCIDENTAL discovery of elevated blood PRESSURE during routine ANC
- OR, the patient complains of PERSISTENT HEADACHE for 2 days *(why she didn't go to any batna hospital, you didn't mention she is pregnant !)*
- The patient is pregnant at 35 weeks and she complains of persistent headache for 2 days *(be careful many dislike to mention pregnancy like the patient says… 8 months, 7½ months,..✗)*
- OR, the patient complains of DIMINISHED FETAL KICKS for 3 days

History of present pregnancy:

- How did she know that she is pregnant?
- How did she mange that pregnancy?
- What occurred in the 1st trimester?
- How did the patient know that she's got in the 2nd trimester?
- What occurred in the 2nd trimester?

- *How did she discover that she is hypertensive, how she controlled it ?*
  - Two months ago, the patient noticed gradual swelling of her lower limbs, she sought medical advice & her doctor discovered elevated blood pressure. The patient started to take regular tablets twice daily (mostly aldomet 250 mg, some patients remember, other state a yellow small tablet)
  - The patient didn't attend regular antenatal visits, blood pressure was just measured once a month later, but no urine check was done (to detect proteinuria....strips in the clinic, or urine analysis). However, she's done U/S twice and proved satisfactory.
- *Did any problem occur, maternal or fetal?*
  - However, 3 days ago, the patient noticed diminution of the fetal kicks in comparison to her norm. one day later, she started to complain of severe headache, which was persistent & frontal. Ordinary analgesics didn't relieve the condition. Few hours ago, there was also blurring of vision & the headache became more worse.
  - There were no symptoms suggestive of other complications suggestive of DM, PTL, ROM
- *Review of other body systems was irrelevant*

Oral questions

- **What is your diagnosis?** Melisa Ahmed El-sayed, 20 years old, she is PG, pregnant at 35^{+2} weeks, cephalic, not in labor, severe PET for termination
- **Why did you said severe?** She have some of the criteria of severity such as: decreased fetal kicks & persistent symptoms
- **What are the classifications of PET?** Mild, severe, impending, eclampsia
- **What does impending mean?** Severe worsening criteria + hyper-reflexia
- **What are the risk factors in this patient to suspect PET?** young age (20), PG, +ve family history of hypertension, low social class
- **Do you think that this is a case to be examined upon? Why?** No, this is a severe case that should be terminated immediately, to avoid worsening of the condition & getting complications
- **Well, what is the next step?** Immediate admission to the eclampsia room (or to maternal ICU if the condition is worse) for stabilization (lab. inv., anti-hypertensives, $MgSO_4$) & deciding the way of termination
- **Do you think she will deliver vaginally or cesarean?** According to:
  - General situation (organ function: clinical & laboratory)
  - Fetal situation (U/S, Doppler, CTG)
  - Local situation (vaginal examination: *Bishop* score)
- **If she will deliver vaginally, how to monitor the baby?**
  - Clinical (amniotic fluid color)
  - Electronic (continuous intrapartum monitoring – CTG)
  - Chemical (fetal scalp pH)
- **What is the worst complications you might face?** Loss of life
  - Maternal.....state all organs (esp brain: eclampsia)
  - Fetal.....fresh still-birth
- **What are the pre-requisites to deliver her?** Tertiary center
  - Mother (eclampsia room, special ICU, blood bank, good lab.)
  - Fetus (good ICU with expert neonatologist)
- **How to control fits?** $MgSO_4$.....diazepam....phenytoin.....intraval
- **What are the stages of eclampsia?** Premonitory...tonic....clonic...coma
- **How to avoid recurrence in next pregnancy?** She is considered high risk
  - Regular antenatal care.....to detect hypertension early
  - Certain screening tests esp.....Doppler
  - Certain drugs esp.....Aspirin, vit. E

Mariam Abd-elrahman faris, 33 years old, G5, P3+1, 33 weeks, breech, not in labor, superimposed-hypertension

Personal history:

- *Mariam Abd-elrahman Faris*, 33 years old, married 13 years ago, she is a house-wife and lives in block 8, floor 2, Sheikh Rehan, El-Sahel, Shobra. She has 3 children; a boy & 2 girls; the youngest is 4 years old. She has no special habits of medical importance
- Her husband is *Ahmed Roshdy Abaza*, 39 years old, & he is a security officer and a heavy shisha smoker. *Take care, some will say no need for all this as personal history includes only the data written in the personal ID* !!

C/O: The patient is REFERRED from the ante-natal care clinic to control her blood pressure *(no need to mention that she is pregnant as you've said she came for ANC)*

Menstrual history:

- The 1st day of LMP was on 9 / 2 / 2010. She is sure of her date
- This makes her EDD on 16 / 11 / 2011 according to Naegel's rule
- This makes her pregnant now at 33^{+3} weeks (EGA)

Obstetric history G_5, P_{3+1}

- *1st pregnancy:* 12 years ago, a boy, full term, average weight, delivered vaginally at home, living & well, breast-fed for 2 years, with no ante partum or post partum complications.
- *2nd Pregnancy:* 10 years ago, a girl, full term, average weight, delivered at home by a midwife (Daya), living & well, breastfed with no ante or post partum complications
- *3rd Pregnancy:* 4 years ago, a girl, full term, average weight , delivered at home, living & well, breastfed with uneventful pregnancy *(uneventful means smooth normal course)*
- *The patient has* aborted once at 2001. It was a missed abortion which was treated by a $D_{\&}C$ done in el-Sahel hospital. There were no post-operative complications.

Contraceptive history:

- She used an IUCD to space between her 3 children.
- It was removed before the last delivery, and since then, the patient inserted a subcutaneous implant (IMPLANON or NOR-PLANT). *They contain only progesterone which is suitable for both old age + hypertension*

Past history: well known hypertensive for 4 years

Family history: both parents are hypertensive

History of present pregnancy:

- *How did she know that she is pregnant?*
  - She is pregn. now at 33^{+3} wks. She knew she is preg. after….
  - Pregnancy was confirmed by a ……
- *How did she mange that pregnancy?*
  - Then the patient started to join a regular program of ANC visits as she is well known hypertensive. The condition was discovered accidentally 3 years ago after her last child. The patient was controlled by oral medications taken once daily.
- *What occurred in the 1st trimester?*
  - Her 1st trimester passed smoothly with no sympt suggestive of…..
  - The patient was shifted on aldomet 250 mg twice daily
  - Routine check-up was done in the form of ……
- *How did the patient know that she entered the 2nd trimester?*
  - Then the patient noticed gradual enlargement of her abdomen
  - She also started to feel her fetal kicks at the 5th month
- *What occurred in the 2nd trimester?*
  - In the second trimester, routine follow up of pregnancy was done, there were no symptoms suggestive of any abnormality as Maternal disease…… or Pregnancy disease……
  - Fetal kicks were always satisfactory, routine check-up by U/S were normal as was told to the patient but no reports available

All that was the "stumba"..Where is the patient story?

- *How did she discover worsening of the condition, how she controlled it ?*
  - One month ago, the patient noticed gradual swelling of her lower limbs and more frequent attacks of headache, she sought medical advice & aldomet was increased to 500 mg twice daily. Since after, she attended our out-patient clinic weekly.
  - In the last visit, 4 days ago, her B.pr was elevated & there was also proteinuria. Then the patient was admitted in the hospital.
- *Did any problem occur, maternal or fetal?*
  - Routine U/S was done, lab. investigations and fetal Doppler. All were well according to the patient's words.
  - There were no symptoms suggestive of severe PET (as persistent headache, blurring of vision, epigastric pain, oliguria)
  - There were no symptoms suggestive of other complications suggestive of DM, PTL, ROM
- *Review of other body systems was irrelevant*

Oral questions

- **What is your diagnosis?** Mariam Abd-elrahman faris, 33 years old, she is G_5, P_{3+1}, breech, not in labor, superimposed-hypertension for hospitalization & follow-up

- **What is definition of superimposed PET?** occurrence of PET on top of chronic HTN = pregnancy aggravated hypertension

- **What changes make you know that PET have been developed on top?**
  - More elevation of BPr. (S: > 30 mmHg / D: > 15 mmHg)
  - Development of proteinuria
  - Appearance of complications specific to PET (M. or F.)

- **What are the different types of hypertension?**
  - Pregnancy Induced hypertension = PET (PIH)
  - Pregnancy Associated (coincidental / chronic) hypertension
  - Pregnancy Aggravated hypertension (super-imposed)

- **What are hypertensives contraindicated in pregnancy?**
  - ACE inhibitors.....fetal renal anomalies
  - Diuretics...except in severe cases (as heart failure)

- **Define high risk pregnancy? What is MMR, PNMR?**
  - *Definition of HRP* → it is the pregnancy associated with increased risk (M or F) thus requiring more care.
  - *Risk factors include*
    - Socioeconomic factors social class, occupation
    - Maternal age & weight
    - Medical disorders before pregnancy
  - *MMR* = no of maternal deaths related to pregnancy, labor, puerperium in 100.000 births = 140 in Egypt (Hge, HTN, infection)
  - *PNMR* = no of fetal deaths (>20 or 28 wks) + neonatal deaths (1^{st} month) in 1000 births

- **Will you terminate this patient? Why?**.....No.....conservation.
  - Condition → not severe
  - Baby → not mature
  - Mother → not in labor

- **When you will terminate her?** .....whenever
  - Condition → severe (i.e. complications: M. or F. / clinical or biochemical)
  - Baby → became mature
  - Mother → gets in labor

- **How to follow the fetus till delivery?**
  - *Symptom*
    - Daily fetal movement count
    - Fetal kick chart or Cardiff-count-to-ten (subjective)
  - *Examination*
    - Gravidogram → progressive ↑ in FL above SP (1cm /wk after 20 wk)
    - Abdominal GIRTH → progressive ↑ in abdominal circumference
  - *Investigations*
    - U/S

      FETUS → life, site (ectopic), number, CFMF, Biometry (measurements)
      AMNIOTIC FLUID → volume, turbidity (for lung maturity)
      PLACENTA → position, tumors, hge, grading 0,1,2,3 (for lung maturity)
      UTERUS → anomalies, fibroids, remnants after delivery or abortion
      CERVIX → diameters (for patulous internal os)

    - Doppler

      JOHANN CHRISTIAN DOPPLER SHIFT PRINCIPLE: the echoes reflected from a moving object is directly proportional to their velocity:
      . Systolic / diastolic ratio = S/D ratio
      . Resistance index = (S-D) / S
      . Pulsatility index = (S-D) / mean

    - Non-stress test (CTG)

      . FHR is continuously recorded for 20 – 40 min. (after VAST)
      . Normally → FHR accelerates in response to fetal movement

      REACTIVE TEST (– ve) ⇨ 2 acc of at least 15 b/m in 20 min
      NON-REACTIVE (+ve) ⇨ < 2 accelerations in 40 min

Case I

A 29 year-old G_1P_0 woman at 29 wks' gestation presented with BPr. 160 /110 and 3+ proteinuria. She denied headache or visual disturbances. She noted a 2 day history of severe unremitting epigastric tenderness. The patient's platelet count was 80.000/mm^3. She was contracting 3/10 and cx was 4 cm dilated

Two hours after delivery, she complained of sudden onset of severe abdominal pain followed by syncope & loss of consciousness. BPr. was 60 / 20 mmhg, pulse was 150 bpm and abdomen showed a +ve transmitted thrill sign.

- **What is the provisional diagnosis before delivery?** Severe PET
- **What are the criteria of severity?**
  - *Symptoms*.....epigastric pain
  - *Signs*.....BPr. > 160 /110.....proteinuria +++
- **What is the DD of proteinuria?**
  - Contamination (false proteinuria)
  - Urinary tract infection
  - Orthostatic (pressure on renal vessels)
- **What happened to the patient?** mostly rupture Glisson capsule
- **What other causes acute abdomen in PET?** accidental hge.
- **Why we delivered her vaginally?** low platelet, small baby; ∴ deliver vaginally as long as maternal / fetal conditions are monitored
- **Did we scarified this baby?** No, he has good chance ; PET improves lung maturity dramatically (imposes stress on the baby)
- **Why the patient is inserting a urinary catheter?** To monitor state of shock, to give $MgSO_4$, to have a protein sample
- **Is $MgSO_4$ a safe drug?** no, narrow therapeutic margin (only 4–7 mEq/l) ∴
  - Knee jerk is checked every hour
  - Respiratory rate > 16 /min
  - Urine > 30–60 ml / hr
- **When we will stop it?** .....48 hours after delivery

Case 2

A 19 year old PG pregnant at 36 weeks has been admitted in labor with severe headache & blurring of vision for the past 6 hours.

On examination BPr 180/120, pulse 96 /m. Abdominal examination shows a fundal level corresponding to 34 wks of gestation with uterine contractions 3/10 min, FHS 140 b/m. PV showed a cervix 7 cm dilated, vertex presentation, with well engaged head.

Urine analysis: proteinuria ++. The patient was put on medical therapy under observation expecting delivery within 3 hours

- **What was the medical ttt given**
  -
  -
- **What observations were performed**
  - General →
  - Local →

One hour later, the patient developed severe lower abdominal pain & the FHS rapidly dropped to 100 b/m. On vaginal examination there was no bleeding and the cervix was now 9 cm dilated

- **What is the most likely cause of pain**
- **How could you manage such a case**
  - General →
  - Local →
    - Electric monitor
    - Fetal scalp ph

Case 3

A young PG 17 yrs old, 36 wks pregnant was admitted with a history of 2 consecutive fits at home. On admission the patient was conscious, but with incoherent speech, BPr 140/110, pulse 100b/m T 37.2. There is peri-tibial edema, urine was albumin +. By abdominal examination, the size of the uterus correspond to the duration of pregnancy, FHS were audible, cephalic presentation. **Comment**

1- This representation at 12 week pregnancy with BPr 145/90 is mostly due

a- Pregnancy induced hypertension
b- Hyperthyroidism
c- Normal pregnancy
d- Superimposed PET
e- Chronic hypertension

2- The best management of severe PET diagnosed at 34 weeks with persistent FHR at 100 bpm

a- Conservation at ICU
b- Steroids for 48 hours than terminate
c- Immediate termination of pregnancy
d- MgSO4 repeated weekly till 37 wks
e- Amniocentesis for lung maturity

3- A diagnosis of severe PET in 37 wks with BPr 160/110 is supported by

a- Urine output of 1000 ml/24 hrs
b- That physical sign on the slide
c- Epigastric pain
d- BPr of 160/110 at 8 wks in the same gestation
e- A parity > 5

4- 26 yrs PG preg 8 wks. Her hands were swollen with loss of the normally seen tendons & bony prominences. Which is not a possible diagnosis?

a- Malnutrition
b- Renal insufficiency
c- PET
d- Heart failure
e- Liver cell failure

5- Which is the correct statement regarding eclampsia

a- Postpartum eclampsia is more common than antepartum one
b- The MMR is highest when it occurs antepartum
c- Placental abruption is a recognized situation
d- The pregnancy could be continued with proper medications
e- DIC is not an associated hazard

6- A 30 yr PG 34 wks with BPr 170/100, headache, epig pain, blurring & 3+ proteinuria, BPP is 8/8, which one of the following is immediate response:

a- Start MgSO4 IV
b- Perform an emergency CS
c- Give Betamethazone to enhance fetal lung maturity
d- Perform amniocentesis to assess fetal maturity

7- Which of the following is not a sign of severity in PIH

a- Oliguria
b- Serum creatinine < 0.3 mg%
c- Fetal growth restriction
d- Epigastric pain
e- Platelets 80.000 mm^3

Gestational DM

Definition

- CHO intolerance recognized for the 1st time during pregnancy & disappears after pregnancy (whether insulin is used or not for ttt)
- It complicates about 2-3% of pregnancies

Pathophysiology

- Pregnancy is potentially diabetogenic + worsens established D.M. due to
  - . Anti-insulin hormones (HPL, E, Pr., corticosteroids , prolactin)
  - . Insulinase activity in placenta
  - . Deficiency of vit B complex and chromium
- Therefore DM may occur for the 1st time in pregnancy in 90% of cases especially in the second half of pregnancy

Diagnosis

- Screening for GDM should be performed between 24-28 wks
- History (present, past, family, obstetric) may be suggestive but investigations are a must……(as symptoms are query)
- The best screening test is 1hr-PPS (Glucola test –50gm–)

• **Time**

. For all patients (low-risk) → at 24–28 wks

. For high-risk groups → at booking (1st antenatal visit) e.g. maternal obesity or age > 35 yrs, chronic hypertension / renal disease, positive family history, history of GDM / IGT or fetal macrosomia or idiopathic polyhdramnios or unexplained IUFD

• **Result**

. < 140 mg % → no further investigations or ttt

. > 140 mg % → 3 hr GTT

Confirmation

- By (GTT): glucose challenge (Modified O'Sullivan test)
- Daily 150 gm CHO diet is allowed for 3 days
- FBS is determined (after overnight fasting of 8–14 hrs)
- Then give 100 gm glucose in 400 ml water
- Readings are taken hourly for the next 3 hrs & a curve is drawn
- GDM is considered when at least 2 readings are > normal

Complications

❶ Maternal

□ PREGNANCY

- Preeclampsia.....in 25% (vasculopathy)
- Polyhydramnios.....in 25% of cases
  (large placenta.....fetal polyuria....Anencephaly)
- Preterm labor.....overdistension d.t. macrosomia & polyhdramnios
- Placenta previa & abruptio placenta (PIH)
- Pyelonephritis (recurrent) .....↑ liability to infections as candidiasis

□ PARTURITION

- PROM → fetal & maternal infection
- Prolonged labor (d.t. macrosomia → obstructed labor → rupture ut.)

□ PUERPERIUM .....S^3

- Postpartum hemorrhage (atonic, traumatic)
- Puerperal sepsis

❷ Fetal

▸ Fetal macrosomia (40% of cases)

- Due to increased glucose in mother → hyperglycemia in the fetus
  → ↑ insulin from fetus → marked anabolic effect.
- Newborn is *large heavy plethoric fatty* with *cushingoid* features

▸ IUFD due to

- Hyperglycemia ± ketosis or Hypoglycemia
- Unexplained sudden IUFD (usually after 36 weeks, repeats at same time)

❸ Neonatal

3 ↓ - RDS

- Hypoglycemia (due to the ↑ed fetal insulin production)
- Hypocalcemia & hypomagnesemia → tetany

3 ↑ . Polycythemia → d.t. chronic hypoxia → erythropoietin

. Hyperbilirubinemia d.t. → prematurity, polycythemia, *oxytocin*

. Hyperviscosity syndrome → renal vein thrombosis

3 ➡ Birth trauma → shoulder dystocia (wider than the head) + infection

PNMR (4–10 %) d.t. all the above ↻ causes

Types

According to the Modified Priscilla White classification

- A1 : FBS..... <105
- A2 : FBS..... ≥ 105

Management

❶ Antenatal care

- Diet
  - Sufficient alone only in mild cases (GDM A_1
  - Exercise allowed → physical activity should be moderated
- Diet + insulin
  - Split schedule system (7 am & 5 pm)…regular + intermediate
  - Indication: GDM A_1 if diet failed / GDM A_2,
  - Dosage → 0.6 u/kg (1st trimester), 0.7 u/kg (2nd), 0.8 u/kg (3rd)
  - The calculated dose is then divided

Morning (7 AM)	Evening (5PM)
⅔ dose ⅓ crystalline + ⅔ NPH	⅓ dose ½ crystalline + ½ NPH

❷ Investigations

➥ **Mat. comp :** Of DM → renal FT, liver FT, fundus, serial HbA_{1c}
On preg → screen for PIH, infections (urine, vaginal C&S)

➥ **Fetal surveillance**
- U/S at 38 weeks to exclude fetal macrosomia
- CTG & BPP weekly starting from 34 weeks

❸ Termination of pregnancy

- Time
  - Diabetics should not be allowed to pass dates ⇒ >40 wks
  - *In mild cases under excellent control* (class A_1) ⇒ 40 wks
  - *Insulin requiring diabetics* (Class A_2)
    - Well controlled, no F/ M complications ⇒ 38–40 wks
    - Not well controlled: once document maturity ⇒ 37 wks
    - Earlier TOP < maturity if F/M distress occur ⇒ <37 wks
  - In cases with repeated unexplained IUFD terminate ⇒ 1-2 earlier
- Mode
  - **Cesarean section:**
    - * Macrosomia (> 4kg) to avoid shoulder dystocia
    - * Previous history of unexplained IUFD
  - **Vaginal** → by AROM ± syntocinon + intrapartum fetal monitoring

Postpartum Consequences

- Risk of type II DM (50% may develop overt DM within 20 yrs)
- Recurrence of GDM (reported in ⅔ of cases – esp in obese women)

Nancy aly Ragram, 21 years, P_{0+1}, 32 weeks, Cephalic, not: In labor, Gestational DM

C/O: the patient is PREG at her 8th month (?!) & REFERRED (?!) to our hospital due to ACCIDENTAL discovery of elevated blood sugar during routine ANC

History of present pregnancy:

- *How did she know that she is pregnant?*
- *How did she mange that pregnancy?*
- *What occurred in the 1st trimester?*
- *How did the patient know that she's got in the 2nd trimester?*
- *What occurred in the 2nd trimester?*
- *How did she discover that she is diabetic, how she controlled it ?*
  - A month ago, the patient's doctor discovered accidental increase in her blood sugar levels. Confirmation was done by a sugar curve (GTT) in our hospital that proved +ve, although the patient didn't suffer from any symptoms suggestive of DM (like polyuria, polydypsia, polyphagia).
  - The patient was advised to be controlled on diet but this was not sufficient alone, thus insulin was added a week later in 2 divided doses: 1st at 7 Am (30 units Mixtard SC), & the 2nd at 5 pm (20 units mixtard SC)..... *insulin dose, time, type should be mentioned; all patients could easily memorize them*
- *Did any problem occur, maternal or fetal?*
  - However, one week ago, the patient noticed marked enlargement in her abdomen, an U/S was done & proved to have polyhydramnios. Since then the patient was hospitalized.
  - There were no symptoms suggestive of other diabetic complications such as deterioration of vision (a general complication), PET or Preterm contractions (a specific complication on mother)
- *What are the investigations done during hospitalization?*

  The patient is hospitalized in order to control her condition by following up of
  - Maternal blood sugar levels every other day
  - Fetal condition by repeated U/S & Doppler examinations
- Review of other body systems was irrelevant

Possy Mohamed Samir, 31 years, P_{2+2}, 26 weeks,
Cephalic, not In labor, Pre-gestational DM

C/O: The patient is hospitalized one month ago to control her blood sugar as she is well known diabetic

Obstetric history

- *1st pregnancy:* 9 years ago, a *boy*, full term, average weight, delivered vaginally at El-Demerdash hospital, living & well, breast-fed with no ante partum or post partum complications.
- *2nd Pregnancy:* 4 years ago, a *girl*, full term, average weight , delivered at El-Demerdash hospital by CS (d.t. a macrosomic baby), living & well, breastfed with no ante or post partum complications
- *The patient has* aborted twice. One at 2000 & the other 2 years ago. Both started spontaneously by bleeding & colicky pain followed by evacuation at El-Demerdash hospital. They were not followed by any complication

Contraceptive history:

- She used IUCD for five years to space between her 1st & 2nd child between the first & the second child. It was removed few months ago due to irregular bleeding *(which is common d.t. vasculopathy)*

Past history: diabetic on insulin for 2 years, otherwise irrelevant

Family history: irrelevant

History of present pregnancy:

- *How did she know that she is pregnant?*
- *How did she mange that pregnancy?*
  - Then the patient have started a regular program.....
  - Routine check-up was done in the form of .....
  - The patient is well known diabetic. The condition was discovered accidentally in the last pregnancy 4 years ago. The patient was controlled by insulin which was stopped after the pregnancy ended. Again 2 years ago, during routine sugar check up, elevated blood sugar was confirmed by a GTT. Since after, the patient is regularly taking mixtard insulin both at 7 AM & 5 PM.

- *What occurred in the 1st trimester?*

  Her 1st trimester passed smoothly, there were no symptoms suggestive of:-

  - Threatened abortion, hyperemesis gr., UTI, abnormal discharge
  - The patient continued on the same insulin dosage which controlled sugar before pregnancy. However sugar check up was done more frequently (once weekly)

- *How did the patient know that she entered the 2nd trimester?*
- *What occurred in the 2nd trimester?*

  In the second trimester, routine follow up of pregnancy was done, there were no symptoms suggestive of any abnormality as

  - Maternal disease.....PET Pump (heart) disease
  - Pregnancy disease.....PTL, P.previa, polyhdramnios, PROM

  Fetal kicks were always satisfactory, routine check-up by U/S were normal as was told to the patient but no reports available

All that was the "stumba". Where is the patient story?

- *How did she discover that she is diabetic, what are the drugs taken?*
  - However, sugar blood levels were continuously rising as the pregnancy advanced. Therefore Insulin requirement increased & the patient now is on mixtard 45 units at 7 AM & 32 units at 5 pm

- *Did any problem occur, maternal or fetal?*
  - One month ago, during routine U/S, the baby was discovered to be smaller than expected (IUGR), therefore the patient was hospitalized.
  - There were no symptoms suggestive of other diabetic complications such as deterioration of vision (a general complication), PET or Preterm contractions (a specific complication on mother),

- *What are the investigations done during hospitalization?*

  In the last month the patient condition was followed up by
  - Maternal Blood sugar checking every other day
  - Fetal condition by repeated U/S & Doppler examinations

- Review of other body systems was irrelevant

Oral questions

- **Classify DM? What is Priscilla White classification? What is the most recent?**

Priscilla White			Recently	TTT
A	A_1	< 105	GDM	Diet
	A_2	> 105		Insulin
B . . C. . .D		acc. to time	IDDM without end-organ damage	
F . . R . . .H. . . T		acc. to comp.	IDDM + EOD	

- **What are the fetal comp. more specific to IDDM?**
  - Abortion……CFMF……IUGR……IUFD

- **What are the commonest fetal anomalies?**
  - CVS ✓ (10x)→ **transposition** of great vessels, VSD, coarctation aorta
  - CNS (5x) → **anencephaly**, spina bifida, meningocele
  - GIT…..renal…..skeletal

- **What is the long term sequele of DM?** Triopathy
  - *Triopathy* ⇨ vasculopathy……neuropathy……nephropathy

- **What are the contraindications to get pregnant?**
  - $HbA_{1c} > 12\%$
  - Marked renal affection is present
  - Progressive proliferative retinopathy

- **What are the types of diabetic comas?**

- **When was insulin discovered & what is the duration of its types?**

- **Why oral hypo-glycemis are contraindicated?**
  - Poor glycemic control + teratogenic (pass placenta)

- **How to control blood sugar during termination?**
  - *Keep maternal euglycemia* (80–100) → to avoid fetal hypoglycemia
  - *Before labor* → stop morning insulin (taken *only* at bedtime)
  - *During labor* → 500cc 5% glucose + 5 units crystalline insulin by drip /5 hrs
  - *After labor* → insulin requirements usually drop immediately
    . If glucose level is > 200 → S.C. regular insulin when needed
    .If glucose is persistently > 200 → resume combined regular & NPH

Case 1

An obese patient (115 kg), 30 yrs old is pregnant at her 34th week. Her 1st pregnancy ended by a living female 4.4 kg 5 years ago. Her 2nd pregnancy was IUFD almost 4.8 kg in weight.

Her BPr 130/90, there is edema in both lower limbs & abdominal wall, but there is no proteinuria. On abdominal examination, the abdomen was amazingly enlarged. U/S have been done & it showed excess presence of amniotic fluid with difficulty in palpating fetal parts

- **What is the normal amniotic fluid volume at term?**
- **What are the possible causes of this polyhdramnios?**

Plasma GTT was done and showed a FBS of 150 mg%; 1hr: 210 mg%; 2hr 190 mg%; 3hr 175 mg%. The patient didn't receive any medical ttt before this pregnancy.

- **State your final diagnosis**

During her delivery, the patient stayed fully dilated for 2 hrs with station +1. Several trials were done by vacuum extraction, but it just succeeded to deliver the fetal head, further traction failed to deliver the rest of his body.

- **How to manage such complication?**

Suddenly during management the patient collapsed and the fetal head receded upwards

- **What has finally happened?**

1- This infant of diabetic mother is at risk of all the following except

a- Hypocalcemia
b- Neural tube defects
c- Hyperbilirubinemia
d- Hyperglycemia
e- Polycythemia

2- The mother of this infant of diabetic mother is mostly stage:

a- A1
b- A2
c- B
d- H
e- T

Nadia Hassan El-gendy, 20 years, PG, 34 wks, cephalic, not in labor, RHD, MVS, decompensated, on digoxin, lasix, aminophylline

C/O: The patient is hospitalized one week ago to control her well known cardiac condition

History of present pregnancy:

- *How did she know that she is pregnant?*
- *How did she mange that pregnancy?*
  - The patient have started a regular ANC program with routine…
  - The patient is well known cardiac. The condition was discovered at the age of 8 when the patient suffered from recurrent tonsillitis & rheumatic fever. Echo was done & discovered mitral stenosis. The patient was just given monthly penicillin injection
- *What occurred in the 1st trimester?*
  - It passed smoothly, there were no symptoms suggestive of….
  - The patient continued on the same medications as before pregn. However check up was more frequent (/2 wks)
- *How did the patient know that she entered the 2nd trimester?*
- *What occurred in the 2nd trimester?* **All that was the "stumba…**
- *Did any problem occur, maternal or fetal?*
  - The condition was not associated with manifestations of PVC (as dyspnea, orthopnea), SVC (as engorged neck veins), Rheumatic activity (as carditis, arthritis, chorea gravidarum, SC nod, erythema), IEC (as fever, symptoms of HF), arrhythmia, or cyanotic heart disease
  - Two weeks ago, the patient suffered from a severe attack of chest infection. She was admitted in cardiology department where emergency echo was done but no available reports. Patient was discharged on digitalis daily except Fridays, she was advised to be hospitalized at El-Demerdash to arrange labor.
  - One week ago, the patient was more orthopneic, lasix & aminophylline were also added.
- *What are the investigations done during hospitalization?* The patient is hospitalized for trial to control her condition by following up of
  - Cardiac condition by repeated echo & cardiac consultations
  - Fetal condition by repeated U/S & Doppler examinations

Fatma Al-yousef Sedky, 29 years, P1+3 (previous CS), 36 wks, cephalic, not in labor, RHD, MVR, AVR, compensated, on digitalis, lasix & heparin

C/O: patient is hospitalized six months ago to control her well known cardiac condition

History of present pregnancy:

- *How did she know that she is pregnant?*
- *How did she mange that pregnancy?*
  - Then the patient have started a regular program.....
  - Routine check-up was done in the form of .....
  - The patient is well known cardiac. The condition was discovered at the age of 11 when the patient suffered from recurrent tonsillitis & rheumatic fever. Tonsillectomy was done but cardiac echo discovered both mitral & aortic valves stenosis. The patient condition was controlled by digoxin, lasix, monthly penicillin injection
  - However, shift of OAC into heparin was done
- *What occurred in the 1st trimester?*
  - During the 1st trimester, the patient suffered from vaginal bleeding, lower abdominal colicky pain & the patient was diagnosed to have threatened abortion. She was hospitalized & given progesterone, heparin levels were monitored & the condition was relieved at her 3rd month.
  - However there were no symptoms suggestive of hyperemesis gravidarum, UTI, abnormal discharge
  - The patient continued on the same medications as before pregn. However check up was more frequent (/2 wks)
- *How did the patient know that she entered the 2nd trimester?*
- *What occurred in the 2nd trimester?* **All that was the "stumba"...**
- *Did any problem occur, maternal or fetal?*
  - The condition was not associated with manifestations of PVC, SVC, Rheumatic activity, IEC, arrhythmia, or cyanotic heart disease
  - However, a month ago, the patient started to be more orthopneic, attacks of PND & frothy sputum were more frequent. Aminophylline was also added
- *What are the investigations done during hospitalization?*

  The patient is hospitalized for trial to control her condition by following up of
  - Cardiac condition by repeated echo & cardiac consultations
  - Fetal condition by repeated U/S & Doppler examinations

Oral questions

- **What is your diagnosis?** Fatma Al-yousef Sedky, 29 years, P_{1+3} (previous CS), 36 weeks, cephalic, not in labor, RHD, Mitral & Aortic valve replacement, compensated, on digitalis, lasix & heparin for repeated elective CS when reaching maturity

- **Is there is any way to deliver her vaginal?** Yes; VBAC (vaginal birth after cesarean as long as there is no permanent indication for CS) esp that fetus is 1) small & she is on 2) heparin:

- **How to control delivery in cardiac patients**
  - *1st stage* → semisitting, analgesia, O_2, delay ROM & PV
  - *2nd stage* → shortened by a low forceps
  - *3rd stage* → no methergine

- **If she will do CS, how will you manage heparin?**
  Heparin will be stopped 6 hours before operation; blood stores will be readily available. Heparin & OAC will be resumed 12 hrs after CS. Then heparin will be stopped 3 days later (after OAC starts action).

- **What are other indications for CS?** Due to the hyperdynamic changes in pregnancy & the cardiac over-load in delivery:
  - *Those with limited COP* → aortic stenosis 1ry pulmonary
  - *Those with liability for cyanosis* → Eisenmenger syndrome

- **What are the normal cardiac changes that occur in pregnancy**
  - *Volume of Plasma* → increase 40–50% (max at 30–34 weeks)
  - ⇧ed *COP (30–50%)* → d.t. ⇧ both SV & HR = 10–15 bpm
  - *Hyperdynamic circulation* → Changes in the heart sounds

- **What are cardiac symptoms & signs that mimic normal pregnancy?**

	Symptoms	Signs
Central	Dyspnea Palpitation	. Splitting of the 1st sound . Appearance of the 3rd sound . Soft systolic murmurs
Peripheral	Malar flush Swelling of LL	. Systemic venous congestion . Hyperdynamic circ.: H_2O hummer pulse, cap. pulsation

Case

A 32 year old Para 3+0 has come to the hospital with severe dyspnea & proved to have pulmonary edema. She has had mitral stenosis for the past 20 years and is now pregnant at 10 weeks

- What be the proper management of her case
- If the patient were pregnant at 20 wks would the management be different? How & why?
- If the patient were in labor, what would be the proper management
- Name a vulvular lesion which would be an indication for CS

High risk diseases

Write short essay on

- Diagnosis of pre-eclampsia
- Symptoms and signs of pre-eclampsia
- Complications of pre-eclampsia
- Management of pre-eclampsia
- Differential diagnosis and management of pre-eclampsia
- Stages of eclamptic fit
- The eclamptic fit and its treatment
- Management of eclampsia
- Domestic (at home) management of a case of eclampsia
- Indications to induce labor prematurely in a case of pre-eclampsia
- Indications & methods of pregnancy termination in PIH
- Infant of diabetic mother, clinical features and liable complications
- Complications of diabetic mother

Enumerate

- Criteria of severity of PET
- Complications of PET
- Complications of eclampsia
- Bad prognostic signs of eclampsia
- Differential diagnosis of eclamptic fit
- Reasons to explain the statement "pregnancy is diabetogenic" 4 reasons
- Stigmata for potential DM
- Fetal & neonatal complications of diabetic pregnancy
- The cardiac conditions that contraindicate pregnancy & necessitates TOP

4

labor

- Normal
- Malpresentations
- Obstructed labor
- Contracted pelvis

❸ Arrest of labor

Definition

Delay of either of cervical dilatation or fetal head descent than the normal due to alteration of the normal mechanism of labor

Etiology

- General factors
  - Dehydration
  - Over sedation / excessive fear
  - Full bladder / rectum
- Local factors
  - Power……uterine inertia (atony)
    . Over distended uterus (polyhydramnios, twins)
    . Maternal exhaustion (anemia, PET)
    . Malformed uterus (septum, fibroid)
  - Passenger
    . Malpresentations e.g. OP, face
    . Fetal macrosomia (DM)
  - Passage
    . Contracted pelvis
    . Soft tissue obstruction

Diagnosis

- Normal progress of labor is known by partogram (the diagrammatic representation of labor events) divided into 2 components
  - Fetal component
    - FHS → / 15-30 min in 1st stage, / 5 min in 2nd stage
    - Descent of presenting part → known by the station
    - Amniotic fluid examination → meconium, purulent, bloody
  - Maternal component
    - Vital data (B.Pr., pulse, temp)
    - Uterine contractions → document → frequency, duration
    - Cervicogram

- Abnormal progress is known by the *alert & action* lines
  - Alert line → if there is a 2 hour delay
  - Action line → if there is a 4 hour delay
- Abnormal labor patterns
  1] Prolonged latent phase
  2] Protraction disorders (cervix & descent)
  3] Arrest disorders (cervix & descent)

Complications

- Maternal
  - PPHge (atonic)
  - Puerperal sepsis
    - . Prolonged labor
    - . PROM
    - . Maternal exhaustion
    - . Excessive interference
- Fetal
  - Fetal distress (asphyxia)
  - Fetal death
  - Fetal trauma
  - Fetal infection
  - ICHge

Management

- Prophylaxis (proper management of labor)
  a. Proper antenatal care….CS for macrosomia
  b. Proper intranatal care
     - . *Empty bladder & rectum* → ↓ reflex inhibition
     - . *Good analgesia* → ↓ anxiety & fear
     - . *Correct dehydration* → IV fluids
     - . *Antibiotics in prolonged labor* (esp in PROM)
  c. Close monitoring of labor progress (partogram)
  d. Proper use of ecbolics

- Active
  - Correction of any possible etiology e.g. AROM if was not done
    - o This leads to
      - . Liberation of prostaglandins
      - . Proper application of the head to the cervix
      - . Shows the character of amniotic fluid
    - o One hour later, if uterine contractions are still inadequate → augmentation of labor by oxytocin drip
  - Continuation of labor under close monitoring + prophylactic antibiotic
  - C.section if delay more than 4 hours (action line has reached)
  - If second stage is reached
    - o PG → 2 hours. MG → 1 hour
    - o Any delay → reassess:
      - . If engaged → ventouse or forceps
      - . If not engaged → CS
  - Neonatal resuscitation

❷ Prolonged labor

Definition

Labor occurring in more than 12 hours according to the concept of active management of labor

1st stage.....8-16 hour (4-8 in MG)
2nd stage.....1-2 hour (1/2 – 1 in MG)
3rd stage.....15-20 m (5-10 in MG)

Etiology

❖ Power.....uterine inertia

[1] During pregnancy
- APhge (Pl.previa, acc.hge)
- Maternal disease (PET, anemia)
- Over-distended uterus (twins, polyhdramnios)
- Long use of tocolytics

[2] During labor

↪ 1st Stage → -.Prolonged 1st stage
- Excessive straining
- Overuse of sedatives
- Chorioamnionitis
- Full bladder / rectum

↪ 2nd Stage → - Prolonged 2nd stage
- Excessive manipulation
- Deep anesth. esp. halothane
- Precipitate labor

[3] Causes in the uterus
- Multiple fibroids
- Congenital malformations
- Grandmultipara

❖ Passenger.....obstructed labor

Fetal	Maternal	
	Bony	Soft tissue
* Fetal macrosomia (10%) Generalized / localized * Malpresentations & malposition (esp shoulder) (25%) * Locked twins	-Contracted pelvis (50%) ✓ -Pelvic bony tumors	. Vulval & vaginal . Cervical . Uterine . Ovarian

Clinical picture ⇨ **as in <u>obstructed labor</u>**

↳ *Symptoms*

- Prolonged labor with early ROM
- Strong frequent uterine contractions / **weak (if inertia)**
- Fetal movements may stop

↳ *Signs*

- GENERAL
  - Exhaustion, anxiety
  - Dehydration → ↑pulse, ↑temp, ↑Resp
  - Dry tongue, oliguria (acetone +ve)
- ABDOMINAL
  - Hard tender uterus moulded over fetus → difficult to feel fetal parts
    → may feel retraction ring
  - FHS → fetal distress or death
- VAGINAL..... WARM, EDEMATOUS
  - Presenting part → unengaged, ↑ed caput, over-moulding

  \+ Cause of obstruction is detected e.g. → CPD, prolapsed arm

Comp.

Maternal (High MMR)	Fetal (High PNMR)
- PPHge (**rupture** ✓ or atonic) - Puerperal sepsis - Large necrotic VVF	- Fetal *distress* (asphyxia), death - Fetal *trauma, ICh*ge - Fetal *infection*

Treatment

* *Prophylactic (much ✓more important)*

- Proper antenatal care
- Proper intranatal care
  - . *Empty bladder & rectum* → ↓ reflex inhibition
  - . *Good analgesia* → ↓ anxiety & fear
  - . *Correct dehydration* → IV fluids
  - . *Antibiotics in prolonged labor* (esp in PROM)
- Close monitoring of labor progress (partogram)
- Proper use of ecbolics

* *Active*

- Resuscitation → fluids + analgesics
- Cesarean section.....how ??
  (safer than destructive operations; even if the baby is dead)
- Proper neonatal resuscitation

❸ Impacted shoulder

Definition

Neglected cases of transverse lie → early ROM → prolapsed arm which become edematous → dead fetus. There is no mechanism of labor → picture of obstructed labor then rupture uterus

Etiology

Passage	Passenger	Power
1- Soft tissue obstruction → tumors	1-Fetus → PT, twins, CFMF	1- Main → CMF of uterus (septate)
	2-Placenta → P.previa	
2- Bony → Contracted pelvis	3-Cord→short, around neck	2- Auxillary → (GMP) pendulous abdomen
	4- A.F. → Poly or oligo	

Diagnosis

- Symptoms
  - . Prolonged labor with early ROM
  - . Strong frequent uterine contractions
  - . Fetal movements may stop
- Signs
  - General
    - Exhaustion, anxiety
    - Dehydration → ↑pulse, ↑temp, ↑Resp, Dry tongue, oliguria
  - Abdominal
    - Shoulder presentation: fundal level is < period of amenorrhea + empty fundal & pelvic grips
    - Hard tender uterus moulded over fetus → difficult to feel fetal parts → may feel retraction ring
    - FHS → fetal distress or death
  - Vaginal
    - Vulva & vagina → warm, dry, edematous
    - Cervix → usually fully dilated, edematous lips
    - Cause of obstruction is detected:- prolapsed arm: Differential diagnosis:

	Cavity	Bones	Diagnostic ccc
Face	Mouth	Chin + 2 maxilla	Alveolar margin + nose + suckling
Breech	Anus	Coccyx + 2 ischial tuberosities	Meconium + abd. Examination
Shoulder	Axilla	Clavicle + acromion + humerus	Feel the ribs.
Brow	Frontal bone, no chin, no posterior fontanelle		

Complication (rupture uterus)

1) Symptoms: *Of obstructed labor , then*
   - Cessation of labor pain → sudden severe abdominal pain
   - Vaginal bleeding (& feeling of something giving way)
   - Collapse (d.t. both vaginal & intraperitoneal hge.)
2) Signs
   - General → shock + dehydration
   - Abdominal → T, R, RT, retracted uterus
   - Vaginal
     . vulva & vagina: hot, edematous
     . vaginal bleeding
     . presenting part may recede upwards

Treatment

* Prophylactic (much more important)
  - Proper management of labor
    - Proper antenatal care
    - Proper intranatal care
      . *Empty bladder & rectum* → ↓ reflex inhibition
      . *Good analgesia* → ↓ anxiety & fear
      . *Correct dehydration* → IV fluids
      . *Antibiotics in prolonged labor* (esp in PROM)
    - Close monitoring of labor progress (partogram)
    - Proper use of ecbolics
  - Proper management of the etiology i.e. shoulder presentation
    - In pregnancy → ECV is rarely offered
    - In labor → CS (IPV & fetal extraction is done only in 2nd twin)

* Active ⇨ Resuscitation
  - Cesarean section (USCS)
  - If rupture uterus:

    Resuscitation + Laparotomy
    - Supravaginal hysterectomy (ideal ttt)
    - Exploration of injury of other structures (bladder, ureter)

❹ Contracted outlet

Definition

- Anatomical definition: it is the pelvis in which one or more of the diameters is reduced by 1 cm or more

- Obstetric definition: it is a pelvis in which one or more of the diameters is reduced to a degree which interferes with the normal mechanism of labor

Etiology

- Android, anthropoid, high assimilation pelvis
- Lumbar Kyphosis, spondylolisthesis, osteomalacia

Diagnosis

- History

. Past history → disease or fractures of bones

. Obstetric history → bad obstetric history (difficult-traumatic labor)

- Examination

. *General examination*

Appearance (Dystocia dystrophia syndrome → android pelvis)
Height (if < 150 cm → pelvis is usually small)
Gait (for limping, evidence of disease of spine, pelvis & LL)
Vertebral column

. *Abdominal examination*

Pendulous abdomen, malpresentations as transverse lie
Non-engagement of the head in PG in the last weeks

- Pelvimetry

. *External pelvimetry for outlet*

Bituberous (11 cm) Known by putting fist bet. ischial tuberosities
Thom's rule (15 cm at least) = Bituberous + posterior sagittal

. *Internal pelvimetry*

Diagonal conjugate (12.5 cm). Subtract 1.5 → true conjugate
Interspinous diameter & protrusion of ischial spines
Subpubic angle

- Tests for cephalopelvic disproportion

. *Pinard* ⇨ fetal head is pushed into the pelvis

. *Muller* ⇨ 2 fingers are placed into the vagina with the left hand over SP

. *Kerr's modification of Muller test* ⇨ the head is pushed into the pelvis while 2 fingers are placed into vagina with thumb over the SP

Complications

- During pregnancy
  - . Liability to UTI (pressure on ureters)
  - . Pendulous abdomen / Malpresentations / Failure of engagement
- During labor
  - *1st stage* - Uterine inertia, slow dilatation of cx, prolonged labor
  - - PROM → liability to cord prolapse & chorioamnionitis
  - *2nd stage* . Obstructed labor ⇨ rupture uterus
  - . Necrotic VV fistula (rare now)
  - *3rd stage* .....S_3
- Fetal ⇨ fetal (asphyxia, hge, injury, infection, death)

Management

- Minor° CP (no CPD) ⇨ allow delivery
- Moderate° CP (1st ° CPD) ⇨ Trial of labor

The following factors may facilitate delivery

- Some degree of *moulding & asynclitism* (ant. or post.?)
- *Pelvic give* → relaxation of pelvic joints & ligaments
- Efficient *uterine* contractions
- Progressive *cervical* dilatation

Prerequisites

- Young.....healthy.....PG
- Vertex presentation (better → OA)
- 1st ° CPD + Outlet not contracted
- No fetal distress or placental insufficiency

Technique (At hospital)

- 1st stage → **Active management of labor**
  - Guard against (inertia + PROM + infection) + analgesia
  - Partogram to assess progress (dilatation & descent)
  - . If reaching *alert line* → correct inertia (general lines ± oxytocin)
  - . If reaching *action line* → protracted or arrest disorders → CS
- 2nd stage: If cervix fully dilated → allow 2 hours for engagement
  - Mechanism depends on Thom's rule
  - . If < 15 cm → CS
  - . If > 15 cm → according to pubic arch:
  - Wide → normal delivery
  - Narrow → forceps + generous episiotomy

- Severe° CP (2nd ° CPD) ⇨ CS (craniotomy if dead)

❺ Third stage management

Definition

Expulsion of the placenta (after birth) due to contraction & retraction → placental site shrinks from 20 → 7cm & as the placenta can't shrink (incompressible) → it separates.

Time → PG: 10-30 min, MG: 5-15 min

Normal mechanism

- *Schultze 80%*

  The central part separates 1st & the placenta is delivered as an inverted umbrella (with a retroplacental hematoma) → less liable to *hge* or *retained parts* (memb. peel off from periphery)

- *Duncan 20%*

  Separation of lower margin of the placenta → placenta is delivered by its sideways → more liable to retained parts & hge.

▪ Signs of placental *separation* (1,2) & *descent* (3,4):

1. Gush of blood vaginally .... 1st sign
2. Apparent elongation of cord
3. ↑ fundal level (as placenta distends LUS & lifts UUS) + firm fundus
4. Suprapubic bulge (distended LUS by....)

Management

A] Conservative method

- Put hand on fundus & wait for signs of placental separation.
- Then → encourage patient to strain → catch placenta & *roll between hands to peel away membranes* → examine the placenta
- Then give ecbolics

B] Active method

- Aim
  - ↘ To decrease blood loss & decrease incidence of retained placenta
- Methodology
  - ↘

1- Oxytocin

- First → exclude presence of twins.
- Dosage → 10 units IM
- Given within → 1 minute after delivery of the baby
- NB
  - *Methergine* (0.2 mg IM) is more serious ecbolic with more side effects (it causes prolonged tonic contraction of smooth ms)
  - *Methergine* is better to be avoided in PET & cardiac patients
  - *Prostaglandin tablets* (PG E1: cytotec, mesotec) 200 ug are new dugs which may be given rectally if there is any suspicion of uterine atony

2- Controlled cord traction

Modified Brandt Andrew's method

- Clamp the cord close to the perineum within 1 minute of birth
- Keep slight tension on the cord by *one hand* while placing the *other hand* on the abdomen to stabilize the uterus & apply counter-traction during cord traction (to avoid inversion of the uterus)
- Very gently pull down the cord on feeling signs of placental separation by *one hand* (uterus becomes globular & firm with lengthening of the cord – not necessary to wait for gush of blood) while pushing the fundus upwards gently by the ulnar side of the *other hand*
- If the placenta doesn't descent within 30 – 40 sec, hold on and wait till the uterus is well contracted again.

3- After placental delivery

- Placenta & membranes are examined for missing parts
- Inspect & repair perineal & vaginal tears.
- If the cord is pulled off, manual removal of the placenta under GEA may be necessary

4- Uterine massage

- Immediately massage the uterine fundus till it becomes contracted
- This is repeated every 15 min for the first 2 hours in the recovery room
- Notification is immediately done if the uterus becomes lax

Complication of third stage management
= retained placenta

- Def.: Failure of delivery of the placenta within ½ hour of delivery of fetus
- Etiology
    1. Retained separated
        - uterine atony
        - contraction (constriction) ring
        - complete rupture uterus → escape of placenta to abdomen

    2. Retained adherent
        - Simple adherence due to uterine atony
        - Morbid adherence
            . Placenta previa
            . Scar tissue due to previous myomectomy
            . Presence of congenital uterine anomaly (as septum)
            . Submucous fibroid

- Clinical picture
    - **General** → shock (hypovolemic ± neurogenic from Crede's method)
    - **Abdominal** →
        . Fundal level elevated above umbilicus
        . Signs of placental separation +ve or –ve
        . Uterus may be atonic

- Treatment — RESUSCITATION +

    ➤ Active 3rd stage management ….this will deliver an un-adherent placenta in the absence of contraction ring

    ➤ If failed ➟ Manual separation of placenta under GEA
    Introduce right hand along the cord, you may find
    - *Contraction ring* → give uterine relaxant as amyl nitrite
    - *Rupture uterus* → laparotomy
    - *Placenta adherent*
        - reach the margin (line of cleavage between placenta & uterus)
        - take a fold of membrane, separate placenta by sawing manner
        - placenta must be fully inspected for missing parts.

    ➤ If failed ➟ morbid adherence of placenta
    - *Supravaginal hysterectomy* (ideal ttt)

Case I

A39-year-old G6 P5 in labor was attended at home. On examination the midwife was suspecting a breech presentation. The patient was transferred to hospital after failure of delivery for more than 24 hours. At the labor ward, pulse was 120 b/m, T: 38.2, BPr 125/80, acidotic breathing, FHS are heard 142 bpm. On P/V edema of the vulva is found, Cx is fully dilated and the presenting part is very low. A bedside U/S confirms cephalic presentation but the head appears markedly deflexed and obscured by edema. Delivery does not ensue over the coming hour despite frequent contractions and good maternal effort.

- What was the presenting part
- What is the most serious complication for such a case? How to diagnose it?
- How to avoid such complication?
  - ➟
  - ➟
- How are you going to deliver this case?
- Concerning this diameter –arrow-, (Tru-Exc):
  - a- It extends the occipital protuberance to the root of the nose
  - b- It is the diameter distending the vulva in face to pubis delivery
  - c- It is the diameter of engagement of the after coming head of breach
  - d- It is 10 cm
  - e- It is 11.5 cm
- This star is the engaging diameter of
  - a- Extended head at the OP position
  - b- Head presented by brow
  - c- Fully extended face
  - d- Fully flexed head at the OA position
  - e- Extended head at the OA position
- Engagement of the fetal head is documented when
  - a- The fetal head is inside the pelvis
  - b- The presenting part is just above the level of ischial spines
  - c- The vertex is left OA
  - d- The biparietal diameter pass through the pelvic inlet
  - e- The fetal skull is fully flexed
- On examination of this patient, android pelvis was found, (Tru-Exc):
  - a- Inlet is heart shaped
  - b- Is also called funnel pelvis
  - c- Usually head is right occipito anterior
  - d- May lead to persistent occipito posterior
  - e- Subpubic angle is less than 90 degrees

Case 2

A para 4 diabetic gave birth to a baby by vacuum extraction due to prolonged 2nd stage of labor. After delivery of the fetal head, the usual downwards traction of the head failed to complete the delivery

- **What are the 2 possible causes for this condition**
- **What is the probable management**
- **What are the possible complications**
- Which is not a risk factor for such a case?
  - a- Previous history of such event
  - b- Maternal DM
  - c- Maternal hypertension
  - d- Anencephaly
  - e- Postmaturity
- When managing this condition, McRobert's maneuver
  - a- Relieves cord compression
  - b- Is dangerous in the 2nd stage of labor
  - c- Is a rapid technique to increase the pelvic diameters
  - d- Increase the chance of changing an OA to OP presentation
  - e- Done with local anesthesia

Case 3

In the obstetrics emergency room, the ambulance brought a 36 years old para 4 woman with fetal buttocks, body and arms coming out of the vulva. On examination T 37.8, pulse 110 bpm

- **What are the possible causes**
- **Discuss the management of such a case**

Case 4

A 22 year-old G3 P2 at 40 weeks' gestation complains of strong uterine contractions. She denies leakage of fluid per vagina. She denies medical illness. Her antenatal history is unremarkable,

On examination, her BPr is 120/80, hear rate 85 b/m T. 37. The FHS ranges from 140-150 b/m, the cervix is 5 cm dilated, and the vertex is at -3 station. Upon artificial ROM, fetal bradycardia ranging from 70-80 b/m without recovery

- **How to confirm the diagnosis**
- **What are the causes of such condition**
- **How to deliver her**
- **What will you do until delivery**

Case 5

A 29- year old PG at term is admitted in spontaneous labor and has progressed to being fully dilated. She has been actively pushing for 90 minutes. On abdominal examination the head is 0/5th palpable. Vaginal examination reveals a sagital suture midway between symphysis and coccyx with no caput or moulding. Head station is +1 below the ischial spines.

- What is the best management

Case 6

A 23 year old G1, P0 woman at 40 wks pregnancy is undergoing induction of labor with oxytocin for oligohydramnios. She has been at 6 cm dilatation for 3 hours. A significant amount of caput is noted on cervical examination. Her uterine contractions are every 6 minutes, each lasting for 40 seconds. The estimated fetal weight is 3.7 kg and the FHS ranges from 145-150 b/m

- What is the diagnosis
- What are the possible causes
  - General →
  - P
  - P
  - P
- What are the types of caput
  -
  -
- How to manage such a case
  - Correct any possible etiology
  - Continue with proper monitoring
    - Clinical → partogram
    - Electronic → intrapartum monitoring

Case 7

A 25 year old PG has been in labor for 18 hours, vaginal examination revealed vertex presentation with right occipito transverse, station of the head at +2 and the head is well moulded with mild caput. The cervix is fully dilated and the membranes ruptured 6 hours ago.

- What is the most likely diagnosis
- How to detect this problem earlier
- What is the best management of this case if there were late decelerations in the last 30 min
- What is the best management of this case if there were early decelerations in the last 30 min

What is the best management of

1- A PG in labor with a fully dilated cervix for 2 hours , head station -1 with moulding and diffuse caput

2- Eight minutes after a normal delivery under pudendal anesthesia, the patient has not completed her 3rd stage of labor. The uterus is globular & firm and no bleeding is evident

3- A 26 year old PG who states that she is experiencing regular menstrual cramps every 3 minutes. After taking this history, what is the 1st appropriate thing to be done

4- A 37 yr old G4 P3 presented to the emergency room at 37 wks with mild painless unexplained vaginal bleeding. there are no signs of onset of labor

5- A 21 yr old PG presented in labor at 41 wks. She had ROM 12 hours ago. On examination abdominally baby is cephalic with 2/5th above symphysis. Vaginal examination: 5 cm dilated revealed horse show like bone directed backwards with station -2. FHS are excellent with good variability.

6- A woman in the second stage of labor came with breech hanging out of the vulva while the head and shoulders are still in the birth tract. The cord is pulsating

7- Another woman who delivered at home since two hours came with the umbilical cord ligated and the placenta is still inside. She looks pale

8- A prolapsed edematous arm from half dilated cervix while uterus is markedly moulded on a transverse lie baby

9- A G6 P5 who is fully dilated for 2 hours with a cephalic baby who has diffuse caput at station +2

Miscellaneous MCQ

1- Regarding this head diameter- arrow- (Tru-Exc):

a- It is 9.5 cm
b- If asynclitic head, it is 9 cm
c- Is more than 10.2 cm in post-term
d- When engaged, it is felt at the ischial spines
e- Extends from one parietal bone to the other

2- The suboccipito-bregmatic diameter

a- Extends from below the occipital protuberance to ant end of bregma
b- It is the diameter of engagement of the head in fully flexed OA
c- It is also the diameter of engagement of the head in fully extended face
d- It is the diameter distending the vulva when the head extends after crowning
e- It is 11.5 cm

4- Regarding the pelvic cavity, (Tru-Exc):

a- It is bounded by pelvic brim above, plane of least pelvic dimen. below
b- The plane of least pelvic dimen. is the site of internal rotation
c- The plane of greatest pelvic dimen. is rounded in shape
d- All of its diameters equals 12.5 cm
e- Fetal head passes through it downwards & backwards

5- Regarding the anatomical outlet, (Tru-Exc):

a- It is diamond in shape
b- It is bounded laterally by the ischial tuberosity
c- It is formed of both anterior and posterior sagittal planes
d- According to Thom's dictum, it is less than 15 cm
e- Extends anteriorly form SP till tip of coccyx

6- Which is the correct significance of this station (arrow)

a- It indicates zero progress in labor
b- It indicates that the lower bony part of fetal head is at ischial spines
c- It indicates that lowest part of fetal scalp has reached ischial spines
d- It means unengaged head
e- None of the above

7- Which is the incorrect statement regarding that bony spines "arrow"

a- They mark the beginning of the forward curve of the pelvis
b- That are landmarks for pudendal nerve block
c- They are particularly prominent in the normal pelvis
d- They help to assess station of the presenting part
e- They lie at the level of the least pelvic dimension

8- The correct statement regarding engagement

a- It is descent of the widest diameter of presenting part below pelvic brim
b- It occurs in the 2nd stage of labor in PG
c- Cannot be assessed abdominally
d- Is diagnosed when the fetal scalp reaches the ischial spines
e- Is diagnosed when the fetal skull reaches station -1

9- Advantages of prophylactic episiotomy include

a- Less incidence of dyspareunia
b- Reduction of duration of the 2nd stage
c- Decreased blood loss
d- Reduction of subsequent pelvic congestion
e- Avoid perineal discomfort during puerperium

10- Advantages of median episiotomy include the following except

a- Increased area of vaginal outlet to facilitate labor
b- Less blood loss compared to medio-lateral one
c- Avoidance of major perineal lacerations
d- Decreased risk of injury of anal sphincter
e- Greater ease of repair compared to medio-lateral one

11- The incorrect statement for delivery of the placenta

a- Placental separation is often by Schultze method
b- Duncan method is more liable for retained parts
c- The earliest sign is gush of blood
d- Normally it takes 1-2 hours in PG
e- Sign of placental separation is suprapubic bulge

12- Which is the incorrect statement regarding Brandt's Andrews method

a- There is no internal manipulations
b- Manipulation starts only after placental separation
c- Manipulation involves controlled traction on the umb cord
d- Manipulation involves gentle elevation of the fundus
e- It is used mainly to deliver a retained placenta

13- That blotted graph during labor is useful in all the following except

a- Early detection of abnormal progress of labor
b- Estimation of rate of cervical dilatation
c- Calculation of Bishop score
d- Determining the need for augmentation of labor
e- Early diagnosis of obstructed labor

Normal Labor

Write short essay on

- Anatomy & diameters of the female pelvic inlet
- The diameters of the inlet in normal gynecological pelvis
- The pelvic outlet
- Uterine contractions during labor? How would you monitor these contractions & what is the significance of this monitoring?
- Onset of labor at term pregnancy
- Signs of labor
- Diagnosis of the onset of 1st stage of labor
- Diagnosis & management of 1st stage of normal labor
- Signs of placental separation
- Methods of placental separation
- Management of third stage of labor
- Management of third stage of uncomplicated labor
- The principles of active management of labor
- The partogram
- APGAR score
- Management of newborn with 1 min APGAR score

Abnormal Labor

Write short essay on

- Etiology, diagnosis & management of OP in labor
- The mechanism of labor in OP presentation of the fetus
- Deep transverse arrest of the head
- Causes of breech presentation
- Diagnosis of breech presentation
- Management of a case of breech presentation
- After coming head in breech delivery
- Delivery of after coming head in breech presentation
- Retained after coming head of breech
- After coming head of breech mechanism management (complicated & uncomplicated)
- Mechanism of labor, management & complications of breech presentation
- Causes of arrest of breech presentation on the pelvic outlet
- Breech presentation with extended legs

- Complications of vaginal breech delivery
- Fetal morbidity & mortality in breech delivery
- Diagnosis & management of face presentation
- Etiology, C/P & ttt of shoulder presentation
- Management of cord prolapse
- Cervical dystocia
- Management of cervical dystocia
- How could you manage an ovarian cyst detected at 8...24...34 wks? And if detected immediately after labor
- Contracted outlet
- Management of labor in patient with contracted outlet
- Diagnosis & ttt of CPD
- The four main types of female pelvis. Table is recommended
- Causes of non-engagement of fetal head at term. How would you investigate for each cause?

Enumerate

- Important diameters in the female pelvis related to the mechanism of labor
- What are the causes prolonging the 2nd stage of labor in vertex presentation
- Ecbolic drugs used to induce abortion & stimulate uterine action during labor and to avoid atonic PPHge after labor (mention dosage)
- Four procedures you will follow to deliver a PG with deep transverse arrest of the head into the pelvis with fully dilated cervix. Mention the best and state why?
- Etiological factors of OP presentation
- Factors that hinder forward rotation of the head in OP
- Etiological factors in breech presentation
- Methods of delivery of each of the following parts of breech (buttocks, shoulders, legs, head)
- Etiological factors of transverse lie
- Causes prolonging the second stage of labor in vertex presentation
- Complications of prolonged labor
- Causes of arrest of the head into the pelvis during labor
- Classification of abnormal uterine action
- Classification of CPD & name the method of delivery in each degree
- Causes of obstructed labor
- Complications of obstructed labor

5

Postpartum Hge

- Atonic
- Traumatic
- Retained placenta
- DIC

+ CTG

+ Normal preg

❶ Postpartum hemorrhage

Introduction

It is haemorrhage from the genital tract after delivery of the fetus till the end of puerperium, either to a degree affecting maternal general condition or more than 500 cc or causing haematocrit drop > 10 %

Types

- Primary PPhge. (hge within 24 hours of delivery)
- Secondary PPhge (hge after the 1st day till end of puerperium)
  - a- The commonest → retained fragments of placenta or membranes
  - b- The most serious → choriocarcinoma
  - c- Sepsis → separation of a slough → bleeding
  - d- Subinvolution / inversion of the uterus
  - e- Submucous polyp
  - f- Others . Local gynecological disease → cervical ulcer
    . General → coagulation defect

Etiology of primary type

a- Uterine atony due to
- Overstretched uterus (twins, polyhdramnios)
- Exhausted uterus (anemic, prolonged obstructed labor)
- Malformed uterus (septate, cornuate)

b- Traumatic
- Rupture uterus
  . During pregnancy (previous scar e.g. perforated uterus)
  . Spontaneous → obstructed labor
  . Traumatic → forceps
- Cervical tears (cervical fibrosis or previous cerclage)
- Vaginal & perineal
  . Overstretch of perineum (occipitoposterior, CPD)
  . Rapid stretch of perineum (precipitate labor)
  . Cause in the perineum (rigid or edematous)

c- Retained placenta
- Separated (uterine atony, full bladder, contraction ring)
- Adherent (placenta previa, scarred uterus, multiple fibroids)

d- DIC
- Preeclampsia, accidental hemorrhage, amniotic fluid embolism
- Missed abortion
- Excess blood transfusion especially if old
- Excessive tissue sepsis, hypoxia, necrosis

e- Acute inversion of uterus

Clinical picture

History

- Severe vaginal bleeding after delivery of the fetus & placenta
- Placenta separated or not
- Possible etiology e.g.
  - . Preeclampsia → DIC
  - . Forceps → traumatic injury
  - . Polyhydramnios → atonic

Examination

- *General*
  - . Shock (not proportionate in rupture uterus)
  - . Sudden severe pain in rupture uterus
  - . Etiology (preeclampsia)
  - . Complications (DIC)
- *Abdominal*
  - . Uterus soft & enlarged in atonic
  - . Retracted to one side + T, R , RT in rupture uterus
  - . Fundal level high in retained placenta
  - . Absent uterus in acute inversion
- *Vaginal* → Fundoperineal examination to exclude trauma
  - . Inspection of vagina: four degrees
    - 1^{st} → vaginal wall + perineal skin
    - 2^{nd} → + perineal muscles ± levator ani
    - 3^{rd} → + external anal sphincter
    - 4^{th} → + rectal mucosa (some consider it 3^{rd} degree)
  - . 4 ring forceps on cervix
  - . Palpation of lower & upper segments. In uterine inversion:
    - 1^{st} → depressed fundus inside the uterus
    - 2^{nd} → cervix surrounds inverted fundus
    - 3^{rd} → fundus protrudes through the vulva

Complications

Early

- Hge + infection
- Rupture uterus in next pregnancy → if repair was done
- Ureteric injury → during surgical repair

Late

- Patulous internal os → habitual abortion & preterm labor
- Chronic cervicitis → infertility or cervical dystocia

Treatment

Prophylactic

- Proper antenatal care .
  * Early detection of any abnormality needing CS (macrosomia, CPD)
  * Patient with previous uterine operations must deliver in hospital
- Proper intranatal care (1^{st}, 2^{nd}, 3^{rd} stages)
  * Early detection of signs of obstructed labor
  * Proper use of ecbolics
  * Prophylactic episiotomy

Active Resuscitation +

- If atonic
  1^{st} line → massage + ecbolics
  2^{nd} line → exploration of birth tract under GEA to exclude trauma
  3^{rd} line → bimanual compression of the uterus
  4^{th} line → laparotomy
  . Bilateral uterine & internal iliac a. ligation
  . If failed → Supravaginal hysterectomy

- Perineal tear
  Repair of rectal mucosa (using inverted Lambert sutures) → external anal sphincter → deep & superficial perineal muscles (± Levator ani) → vaginal wall → perineal skin closure

- Rupture uterus → Laparotomy
  . Supravaginal hysterectomy (ideal ttt)
  . Exploration of injury of other structures (bladder, ureter)

- Retained placenta
  . Active 3^{rd} stage management (ecbolics, massage, Brandt Andrews method)
  . If failed → Introduce right hand along the cord, you may find
  Contraction ring ⇨ treat by delivering under GEA
  Rupture uterus ⇨ laparotomy
  Placenta adherent ⇨ manual separation of placenta
  . If failed → morbid adherence of placenta → *Supravaginal hysterectomy*

- DIC
  . Treatment of the cause ⇨ TOP (VD is more *safe* but CS is more *rapid*)
  . Life saving measures ⇨ Fresh blood transfusion, FFP, fibrinogen
- Acute inversion
  . *Manual reduction* under GEA (halothane) / amyl nitrite / Tocolytics
  . First reposit the uterus then → remove the placenta

❷ Obstetric trauma

▸ Types

❶ Maternal

* Genital tract trauma
  - *Tissue laceration:* (perineal, vaginal, cervical, uterine)
  - *Hematoma formations* (vulval, vaginal, broad ligamentary)
  - *Tissue necrosis* (bucket handle tear of cx, necrotic fistulas)
* Non-genital tract trauma (usually d.t. forceps)
  - *Injuries of pelvic joints & bones* → rupture SP, coccyx, sacro-iliac lig.
  - *Hematoma of* → rectus abdominis muscle

❷ Fetal (esp in breech)

* *Head injury* (ICHge, fractures of the skull)
* *Peripheral nerve* (brachial plexus, facial, phrenic nerve palsy)
* *Musculo-skeletal* (fracture clavicle, other long bones)
* *Soft tissue* (sternomastoid, head, abd organs lacerations)

▸ Etiology

❶ Rupture uterus

- During pregnancy
  - Spontaneous → rupture weak scar e.g. hysterotomy or USCS
  - Traumatic → external cephalic version (ECV)
- During labor
  - Spontaneous → obstructed labor (the commonest)
  - Traumatic → forceps

❷ Cervical tear

- causes in the passage → cervical fibrosis
- causes in the passenger → large baby
- causes in power → ppt labor

❸ Perineal tear

- Overstretch of the perineum
  - If head is allowed to extend before crowning
  - Malpresentation : Face , DOP
- Rapid stretch of the perineum
  - Precipitate labor
  - After-coming head of breech.
- Causes in the perineum
  - Rigidity (e.g. elderly PG or previous scar)
  - Edema (e.g. PET or obstructed labor)

▸ **Diagnosis**.....by fundo-perineal examination (under anesthesia)

❶ Palpate the uterus
- US rupture (usually complete)
- LS rupture (usually incomplete)

❷ Catch the cervix by 4 ring forceps
- Unilateral or bilateral tears
- Stellate multiple tears

❸ Inspect the perineum
- 1st degree –› skin & vaginal mm
- 2nd degree –› perineal ms
- 3rd degree –› anal sphincter
- 4th degree –› rectal mucosa

▸ **Complications**

- Anesthesia
- Hge & infection
- Injury → esp to ureter
- Long term sequelae

Vagina	Cervix	Uterus	Levator ani
Dyspareunia	chronic infection	hysterectomy	Prolapse
Fistula	Infertility	rupture uterus in next pregnancy	Incontinence - urinary - anal
	PIO, PTL		
	cervical dystocia	ureteric comp.	

▸ **Treatment**

- Prophylaxis
  - Good anticipation
  - Proper management of labor e.g.
    . Only low or outlet forceps are allowed
    . Early diagnosis of obstructed cases
    . C.section for macrosomia
    . Only previous 1 LSCS is allowed for V.BAC
- Active management
  - Resuscitation
  - Surgical repair
    . Rupture uterus best is supravaginal hysterectomy
    (repair is only done in restricted cases with low parity)
    . Perineal & cervical tears are sutured from above downwards
  - Postoperative (for perineal tear)
    . NPO, then light fluid & laxatives, neomycin +flagyl
    . No intercourse (2-3 m), no rectal suppositories

❸ Shock in obstetrics

Definition

A state of circulatory failure leading to
→ hypotension, tissue hypo-perfusion

Predisposing factors

- Preg comp → anemia, PIH
- Labor comp → prolonged / obstructed labor

Etiology

- **Hgic shock** ⇨
  - *Bleeding in early preg.* :-
    . Inevitable abortion
    . Disturbed ectopic
    . Vesicular mole
  - *APHge* :- placenta previa, accidental hge
  - *PPHge* : - atonic, traumatic, retained placenta, DIC
- **Hypovolemic** ⇨ dehydration (hyperemesis gravidarum)
- **Septic** ⇨ septic abortion, chorioamnionitis, puerperal sepsis
- **Splanchnic** ⇨ sudden drop of intrauterine pressure (polyhdramnios, twins)
- **Neurogenic** ⇨ pain in early preg., pain in late preg.
- **Pulmonary embolism** ⇨ amniotic fluid or thrombus

Clinical picture

- **History**: of etiology e.g.
  - Missed period + vaginal bleeding + colicky pain → inevitable ab.
  - Missed period + acute abdomen → disturbed ectopic
  - Missed period + vaginal bleeding + enlarging uterus → V.mole

  - Painless bleeding after 28 weeks → p.previa
  - Sudden acute abdomen after 28 weeks → acc.hge
  - Bleeding following prolonged labor → atonic PPhge
  - Bleeding following obstructed labor → rupture uterus

  - Trial of illegal abortion → septic ab
  - Prolonged ROM → chorioamnionitis
  - Sudden ROM in polyhdramnios → splanchnic shock

Examination

1. General: shock → low B.Pr., subnormal temp, rapid weak pulse, pale cold clammy skin, peripheral cyanosis, oliguria
   - *Onset* → very acute: amniotic fluid embolism
   - *Not proportional to ext. bleeding* → ectopic, acc.hge
   - *Association* →
     Fever.....sepsis
     Cyanosis.....pulmonary embolism
     Severe pain.....neurogenic
     Decapitated BPr.... acc.hge after PET
     Dehydration.....hyperemesis gravidarum

2. Abdominal
   - T, R, RT → internal hge e.g. ectopic
   - Rigidity → acc.hge
   - Fetus outside uterus → rupture uterus
   - Bilateral adnexal swellings → V.mole

3. Local
   - Offensive discharge → sepsis
   - Vaginal bleeding → hgic

Treatment

➟ **General**
- Intravenous cannula..... Analgesia (morphia 15mg IV)
- Raise legs.....O_2 inhalation.....Warmth (but not direct, to avoid VD)

➟ **Monitoring** (by fluid input & output chart)
- Catheterization (Foley's catheter) urine should not be < 30 ml/hr
- Central venous pressure (kept between 8–12 cm H_2O)

➟ **Replacement**
- Start by available fluids till blood is ready
- Blood loss should be replaced by blood components

➟ **Drugs**
- Vaso-pressors (after volume replacement) ± inotropics
- Corticosteroids
- Correction of acidosis (sodium bicarbonate)
- Antibiotics (in septic shock)

➡ **Special**....e.g.:-

- **Inevitable abortion** ⇨ Immediate evacuation of uterus
  - 1st trimesteric → evacuation by suction or curettage
  - 2nd trimesteric → oxytocin or prostaglandins

- **Disturbed ectopic** ⇨ laparotomy or laparoscopy
  - Salpingectomy → affected tube is removed
  - Conservative if → one tube is present / mild cases / low parity

- **V.mole** ⇨ suction evacuation & follow up of B-HCG

- **P.previa** ⇨
  - Immediate TOP if the bleeding is severe
  - Usually by C.section esp if major degrees of placenta previa
  - Guard against postpartum haemorrhage

- **Acc.hge** ⇨
  - Immediate TOP
  - Usually easy (cephalic baby with high uterine tone)
  - AROM is done to relieve the high IUPr & accelerate labor

- **Rupture uterus** ⇨
  - Immediate laparotomy is done
  - Supravaginal hysterectomy (repair is only done under strict conditions e.g PG with small rupture)
  - Internal iliac artery ligation may help decrease bleeding

- **Atony** ⇨
  1) Massage & ecbolics (methergine, PGE1 – misoprostone 800μg –)
  2) Exploration of birth tract under anesthesia to exclude trauma
  3) Bimanual compression of the uterus
  4) Laparotomy
     . If completed her family → Supravaginal hysterectomy
     . If not try first → uterine artery & internal iliac artery ligation

- **Sepsis** ⇨
  1) Elevation of the general condition by antibiotics (in combination)
     - *Gram +ve* → penicillin G or cephalosporins
     - *Gram–ve* → aminoglycoside as gentamycin
     - *Anaerobic* → metronidazole or clindamycin
  2) Evacuation of contents: suction evacuation is better than curettage to avoid spread of infection & to avoid perforation

Case 1

A 38 age woman is in labor one she suddenly collapse. She is G5 P4 and arrived at hospital at 42 weeks with 3 cm dilated cx and intact membranes. Augmentation of labor was decided by 5 units oxytocin by infusion drip. Five minutes ago spontaneous ROM occurred during a contraction, with a large gush of clear fluid from the vagina. The woman reported an urge to push at that stage where she became confused and disoriented. She delivered a baby boy with APGAR 2 at 1 min and 6 at 5 min. The patient was immediately transferred to ICU due to severe PPHge where BPr 80 /40, pulse 140 bpm, oxygen saturation 65%.

- **Discuss a 2 possible differential diagnosis**

1- The correct statement for 1ry PPHge

a- May occur at any time in the 1st wk after delivery
b- May occur with retained placental tissues
c- The commonest cause is coagulation failure
d- It is less common with polyhydramnios
e- It is commonly due to uterine inversion

2- The following statement regarding rupture uterus are correct except

a- May occur during manual separation of the placenta
b- During labor, may occur due to extension of old cx tear
c- During preg, is almost always due to external trauma
d- During preg, presents with APHge
e- More common in MP than PG

3- The incorrect statement regarding rupture uterus

a- More common in PG
b- Is more common after USCS>LSCS
c- Can occur in PG due to inappropriate use of oxytocin
d- Its complete type is more common in the UUS
e- Its % varies according to the standard of ANC

4- All the following are lines of management in ut rupture in 38 yr pt except

a- TAH & BSO
b- Anti-shock measures
c- Repair of the ruptured side
d- Internal iliac artery ligation
e- Exploration of the ureter

Case 2

A 30 year-old G4 P3 woman at 39 wks gestation is undergoing a vaginal delivery. She has a history of previous myomectomy and one prior low transverse cesarean delivery. The delivery of the baby is uneventful. The placenta doesn't deliver after 30 min, and a manual extraction of the placenta is undertaken. During the procedure, the patient pulse becomes thready 140 bpm with rapid drop of pressure to 60/30. Abdomen becomes increasingly rigid.

- **What is the most likely diagnosis?**
- **What is your next step in management for this patient?**
- **The correct statement regarding this technique**
  - a- Is performed using pudendal nerve block
  - b- It is an indication for giving prophylactic antibiotics
  - c- Must be followed utero-vaginal pack for 24 hours
  - d- Usually done by piece-meal extraction of the placenta
  - e- Should be performed if placenta is failed to deliver within 10 min
- **All the following leads to retained placenta except**
  - a- Placenta previa
  - b- Previous manual separation of placenta
  - c- Rupture uterus
  - d- Atonic uterus
  - e- Interstitial fibroid

Case 3

After a 9 hour labor, a Gravida 4 Para 0+3 have undergone a vaginal delivery giving birth to a living male 3.6 kg. Placenta failed to be delivered for more than 30 minutes. The patient was transferred to the operative theatre & manual separation under anesthesia was decided. Laparotomy was then done due to failure of that procedure.

After the operation, the patient stated that her previous abortions were due to uterine anomalies.

- **What is the possible cause for retained placenta here?**
- **What are the hazards to remove the placenta manually?**

  •
  •
  •

- **What will be done in the laparotomy?**
- **All the following about acute inversion of uterus are correct except**
  - a- It may occur in precipitate labor
  - b- It may be caused by Crede's method
  - c- Reduction could be done hydrostatically
  - d- Placenta should be removed first before repositioning
  - e- Hemorrhage might be slight

Case 4

A fifth gravida at 36 weeks pregnancy is transferred to the hospital in a state of shock after falling on her abdomen. on examination, the patient was drowsy, the abdomen is extremely tender and the FHS are not heard. Vaginal examination showed moderate vaginal bleeding & closed cervix.

- **State 2 probable causes**
- **Mention causes of shock in pregnancy**
  - **Hgic shock** ⇨ bleeding in early preg., APHge, PPHge
  - **Hypovolemic** ⇨ dehydration (hyperemesis gravidarum)
  - **Neurogenic** ⇨ pain in early preg., pain in late preg.
  - **Septic** ⇨ septic abortion, chorioamnionitis, puerperal sepsis
  - **Splanchnic** ⇨ sudden drop of intrauterine pressure (polyhdramnios, twins)
  - **Pulmonary embolism** ⇨ amniotic fluid or thrombus

Case 5

A young para 4 lady was attended by a mid-wife at home. The whole delivery has taken less than 2 hours. Immediately after delivery, the patient collapsed.

The patient was transferred to hospital, on examination abdomen was found lax but the uterus was not felt. Vaginal examination revealed no bleeding but there was a reddish bulging mass is noted at the introitus

- **What is the probable diagnosis? management?**
- **Why there is no vaginal bleeding**
- **What are the causes of postpartum collapse?**
  - **Obstetric** ➞ - Primary PPhge -,-,-,-,-
    - Eclampsia
    - Pulmonary embolism (d.t. amniotic fluid or thrombus)
  - **Non-obst** ➞ . Cardiogenic shock e.g. peripartum cardiomyopathy
    . Cerebrovascular accidents
    . Anesthetic complications e.g. Mendelson syndrome

Case 5

A 29 yrs old G3 P2 at 38 wks gestation had a myomectomy 3 yrs ago. She was admitted at the delivery room with spontaneous onset of labor. While she was pushing in the 2nd stage, she's noted to have fetal bradycardia associated with some vaginal bleeding. then the fetal head was at station +2 became now at -3 station. Abdominally fetal parts were easy to be felt but with no audible FHS

- **What is the most likely diagnosis / management**
- **How to avoid such problem**

Miscellaneous MCQ

1- That technique is helpful in the management of

a- Retained placenta
b- Atonic PPHge
c- Uterine subinvolution
d- Puerperal infection
e- Uterine prolapse

2- A woman delivers 4.5 kg infant with a midline episiotomy & suffers a 3rd degree tear. Inspection shows which of the following structures is intact

a- Anal sphincter
b- Perineal body
c- Perineal muscles
d- Posterior vaginal wall
e- Rectal mucosa

3- Cervical tear may be lead to all of the following except

a- Rupture uterus if extended upwards
b- Ureteric injury during repair
c- Cervical dystocia in next pregnancy
d- Patulous internal os in next pregnancy
e- Precipitate labor in next pregnancy

Post-partum hemorrhage

Write short essay on

- Causes of rupture uterus
- Signs & symptoms of impending rupture uterus
- Causes of perineal tear during labor
- Diagnosis & management of complete perineal tear immediately after labor
- Complete perineal tear
- Complications of 3rd stage of labor
- Causes, management of PPHge. Outline your ttt
- Etiological factors & ttt of 1ry PPHge
- Diagnosis & ttt of atonic PPHge
- Traumatic PPhge
- Retained placenta
- Retained separated placenta
- Causes & ttt of 2ry PPHge

Enumerate

- Complications of rupture uterus
- Causes of primary PPHge
- Causes of secondary PPHge
- Mention causes of retained separated placenta
- Causes of shock in obstetrics

Normal pregnancy

Write short essay / notes on

- Morphology of the placenta at term
- Structures of the mature villus of the placenta
- Functions of the placenta
- The umbilical cord
- Liquor amnii
- The cardiovascular adaptation during pregnancy
- Diagnosis of pregnancy in the first trimester (symp, signs, inv)
- Diagnosis of 8 wks pregnant women
- The subjective symptoms of early pregnancy
- Pregnancy tests
- Antenatal care (objectives & components)

Enumerate

- The possible sources of amniotic fluid
- Sure signs of pregnancy
- Uterine signs of pregnancy in the 1st trimester (5 signs)
- Important causes of proteinuria in pregnancy (four causes)
- Routine lab tests to be done in the first antenatal visit
- Risk factors in pregnancy that define it as high risk

6

Fetology

- IUGR
- PTL
- Twins
- Rh
- ROM, poly, oligo

How to improve fetal / neonatal outcome

Indices used to calculate fetal outcome

- **Stillbirth rate** = $\frac{\text{number of still births in one year}}{\text{number of total births in the same year}}$ X 1000
- **Neonatal mortality rate** = $\frac{\text{number of neonatal death in one year}}{\text{number of live births in the same year}}$ X 1000
- **PNMR** = $\frac{\text{number of stillbirths + neonatal deaths in one year}}{\text{number of total births in the same year}}$ X 1000

Etiology of neonatal death or distress

Maternal	Fetal	Placental
All HRP e.g....	Chromosomal anomalies & CFMF	Placental malformations
Severe malnutrition	Infections e.g. rubella, toxoplasma	Cord malformations
Alcohol / Smoking	Teratogens exposure	Accidental he, P. previa

Management is by proper assessment of fetal wellbeing

A.....ANTEPARTUM ASSESSMENT OF FWB.....

1] Symptoms (Fetal kick chart or Cardiff-count-to-ten)

2] Signs

. GRAVIDOGRAM → progressive ↑ in FL above SP

. ABDOMINAL GIRTH → progressive ↑ in abdominal circumference

3] Investigations

➟ **Ultrasound**

.FETUS → Fetal life, site (ectopic), number (twins), CFMF, Biometry
AMNIOTIC FLUID → volume, *turbidity* (for lung maturity)
PLACENTA → position, hge, *grading* 0,1,2,3 (for lung maturity)
UTERUS → uterine anomalies, fibroids
CERVIX → diameters (for patulous internal os)

➟ **Doppler ultrasound**

. EARLY DETECTION of ↓fetal flow < pathology (e.g. IUGR, PET)
. Diagnosis of fetal cardiac anomalies
. Diagnosis of fetal anemia (RH incompat.) → ↑ velocity

➟ **Fetal monitoring**

1] Fetal heart rate (FHR) N: 120–160

- Tachycardia (>160) → pyrexia, infections, stress, drugs
- Bradycardia (<120) → most dangerous (late sign)

2] FHR variability (beat-to-beat variations) BTB

- Short term….reflected by change of the amplitude from 1 beat to the other
- Long term….reflected by waviness of the whole trace in a cyclic fashion

3] Accelerations

Normally when fetal movement occurs → symp. stimulation → reflex tachycardia which returns to baseline after movement stops

Non-stress Test (NST) the used one

- *Reactive test* (negative test) → 2 acc of at least 15 b/m in 20 min
- *Non-reactive* (positive result) → < 2 accelerations in 40 min

4] Decelerations

- Type I *dips (early)* → normal (d.t. fetal head compression)
- *Type* II *dips (late)* → distress (acidosis)
- *Variable* → due to cord compression (mechanical)

Contraction stress test (CST or OCT) not done

- *Negative* → contractions adequate + no decelerations
- *Positive* → contractions adequate + late decelerations in >50% of cont.
- *Suspicious* → contractions adequate + late decelerations in < 50%

B…….INTRAPARTUM ASSESSMENT OF FWB……

1- Clinical

- Intermittent auscultation by Pinard
- Amniotic fluid assessment
  - . Meconium staining is d.t. fetal hypoxia
  - . This may be normal in → breech, postdate

2- Electronic

- External monitor
- Internal monitor
  - . Requirements → cx dilatation, ROM, cephalic presentation
  - . Advantages → more accurate > external
  - . Disadvantages → fetal infection & trauma

3- Fetal scalp pH

- >7.25 → normal
- 7.2 – 7.25 → borderline → repeat
- <7.2 → acidosis → interfere → immediate CS

C.....INVESTIGATIONS FOR CFMF.....

1] Biopsy - Preimplantation genetic diagnosis
- Chorionic Villous Sampling (CVS)

2] Amniocentesis

- Early at 16-18 weeks (when AFV is 200 ml) for diagnosis of
  - Chromosomal & genetic studies
  - Measuring AF α-Feto-protein if suspecting:
  - Determine fetal sex in sex-linked disorders
- In midtrimester ⇨ bilirubin estimation in RH → OD 450 → Lilly chart
- In third trimester
  - For estimation of lung maturity L/S ratio > 2
  - Diagnosis of PROM
  - Diagnosis of intrauterine infection by AF culture

3] Imaging techniques

- U/S → screen CFMF at 16-18 wks (level II U/S, anomaly scan)
- 3D U/S → for more details
- CT, MRI → expensive

4] Screening

- alpha-feto-protein
  - . ↑ in twins, fetal death, some CFMF as anencephaly
  - . ↓ in Down syndrome
- Triple screen test .....↓ α-feto-protein....↓ estriol...↑ β-HCG

D.....Neonatal resuscitation.....

1. **Airway** ⇨ suction by a mucus catheter or a suction pump + proper warming
2. **Breathing** ⇨ ambu bag....endotracheal tube (IPPV) → 95% 0_2, 60-80 mmHg
3. **Cardiac resuscitation** ⇨ cardiac massage (2 fingers over mid-sternum)
4. **Drugs**
   - *Antibiotics* → guard against infection
   - *Naloxone* → 0.1 mg/kg (if pethidine was given 2- 4 hr < delivery) ± *surfactan*
   - *Epinephrine* → may be injected direct into the heart ± *volume expanders*
   - *Na bicarb* → to correct acidosis

Etiology ⇨ as in IUGR

Maternal (15-20%)	Fetal (10%)	Placental
All HRP PET / chronic HTN DM (vasculopathy) RHD (class III or IV) Severe malnutrition Alcohol / Smoking	Chromosomal e.g. trisomy CFMF e.g. anencephaly Multiple pregnancy (TTTT) Infections Teratogens exposure	- Accidental hge - Placenta previa * Placental malformations * Haemangiomas Infection→ chorioamnionitis Cord malformations

Diagnosis ⇨ as in missed abortion

▸ Symptoms

1- Amenorrhea + symptoms of pregnancy disappear.
.Breast discharge may be present due to ↓ E (normally estrogen blocks action of prolactin on breasts during pregnancy)
.No fetal movements
2- Bleeding → rarely → mild dark brown (prune juice)
3- Pain → usually absent

▸ Signs

* No general signs of pregnancy
* Uterus → less than period of amenorrhea
* Cervix → closed firm ± dark brown blood

Investigations

- U/S.....absent FHS + absent movement + scalp edema (halo sign)
- X-ray.....BORS . Spalding's sign appears within 1 wk of fetal death
  . Robert's sign is the earliest sign (after 48 hours)
- β-HCG.....becomes –ve within two weeks
- Fibrinogen level.....as there may be liberation of thromboplastin substances from .the retained dead tissue which may lead to DIC slowly. In these cases fibrinogen level usually decreases by 50 mg/ week so is done weekly to avoid reaching the dangerous level (100 mg/dl)

Complications

- Infection → septic abortion
- DIC (hypofibrinogenemia) → after 4–6 weeks

Management

- **Prophylaxis** ⇨ antepartum fetal assessment **as in FWB**
  1. Fetal kick chart
  2. Clinical examination
  3. Investigations
     - Doppler
     - CTG
     - BPP

- **Expectant** ⇨ spontaneous delivery will occur n 2-3 wks in 80% of cases
  * BUT coag. profile should be repeated weekly

- **Active** ⇨ to avoid complications (DIC, infection, psychological stress)
  Coagulation profile is a must < any intervention. Heparin can block further DIC, once corrected → stop heparin & start **as in TOP**

Assessment of cervix is done by (Bishop score)

* If > 8
  - AROM ➟ This leads to
    . Liberation of prostaglandins
    . Proper application of the head to the cervix
    . Shows the character of amniotic fluid
  - One hour later, if uterine contractions are still inadequate
    → augmentation of labor by oxytocin drip
* If < 8.....local prostaglandins vaginal tablets to improve ripening
  - PG E_2 (dinoprostone)
    . Prostein
    . Cervidil
  - PGE_1 (misoprostone✓) cheaper, given vaginal or oral

- **Postnatal management** ⇨
  - Emotional support for the parents
  - Search for a cause: chromosomal analysis, autopsy (postmortem picture)
  - Counseling for a future pregnancy, which is considered a high risk case

Fetal distress

Definition

Fetal situation in which continuation of pregnancy is hazardous

Etiology

- Antenatal fetal distress ⇨ as IUGR
  - Maternal all HRP -- smoking + malnutrition
  - Fetal chromosomal anomalies + infection
  - Placental placenta previa, placental anomalies
- Intrauterine fetal distress ⇨ prolonged / obstructed labor
  - Power ⇒ uterine inertia, cervical dystocia
  - Passenger ⇒ malpresentation
  - Passage ⇒ bony or soft tissue obstruction

Diagnosis ⇨ **FWB**

- Antepartum.....
- Intrapartum.....

Complications

- Antepartum ⇨ stillbirth
- Intrapartum ⇨ Perinatal asphyxia & acidosis
  - Meconium aspiration syndrome (MAS)
  - Hypoxic ischemic encephalopathy (HIE)
- Postpartum ⇨ metabolic complications
  - Hypoglycemia (↓ glycogen stores in liver)
  - Hypocalcemia (functional hypoparathyroidism)
  - Polycythemia (chronic hypoxemia) → Hyperbilirubinemia
  - Deficient temp. control (↓ SC fat + hypoglycemia)

Management

- Prophylaxis ⇨ intrapartum monitoring
- Active ⇨ **TOP**

Assessment of cervix is done by (Bishop score)

* If > 8 ⇒ AROM ⇒ 1 hr later, if uterine contractions are still inadequate
  → augmentation of labor by oxytocin drip
* If < 8.....local prostaglandins vaginal tablets to improve ripening
* Continuous fetal monitoring →
  Intrapartum CTG (internal better than external) & scalp PH
* If fetal distress (expected) → CS

Case I

A 35 year-old G_4P_3 woman is delivering at 42 weeks' gestation. She is moderately obese but the fetus appears clinically approximately more than 3700 gm.

After a 4 hour 1st stage of labor and a 2 hour 2nd stage of labor, the fetal head delivers but is noted to be retracted back towards the patient's introitus. The fetal shoulders didn't deliver even with maternal fundal pushing

- **What is your diagnosis?** shoulder dystocia. **What is the name given to the head when it is stuck?** Turtle sign
- **What is the next step in management?** call for senior help & try generous episiotomy + McRoberts maneuver under GEA
- **What about the fundal pressure done in this case?** wrong, it might lead to rupture uterus
- **How to diagnose rupture?** By fundoperineal examination under anesthesia.....the uterine tear is felt
- **How could we avoid this?** prophylactic CS from the start on suspecting macrosomia...**How to suspect?**
  - History → past date
  - Clinical → . obese mother
    . large expected fetal weight
    . delay in 2nd stage > 2 hrs in such multigravida
  - Investigation → U/S (esp trans-abdominal diameter) but not accurate
- **And what if rupture occur?** resuscitation + laparotomy + SV- hysterectomy
- **What are other causes of rupture uterus than obstructed labor?**
  - Rupture weak scar (USCS, hysterotomy, previous perforation)
  - Traumatic (forceps, abuse of ecbolics, internal podalic version)
- **What are the causes of symmetrically enlarged uterus**
  - Pregnancy.....subinvolution
  - Haematometra.....pyometra
  - Tumors.....fibroid & adenomyosis

Case 2

A 19 year-old G_3P_{0+2} woman living in Sinai, having a twin pregnancy at 29 weeks' gestation & complains of intermittent abdominal pain. She denies leakage of fluid or bleeding per vagina. Her antenatal history is unremarkable, apart from an endoscpoy done for a gastric ulcer.

On examination BPr. is 110 /70, heart rate 90 bpm, temp: 37°c. A fetal heart rate tracing revealed a base line heart rate of 120 bpm and a reactive pattern. Uterine contractions are occurring every 5 minutes. On pelvic examination, the cervix is 2 cm dilated, 50% effaced and the fetal vertex is presenting at -1 station

- **What is the most likely diagnosis?** Preterm labor (established)
- **What are the risk factors in this patient?** twins, previous induced abortion
- **What are the other causes of acute abdomen with pregnancy?**
- **What is the next step in management?** Hospitalization: fluid + rest: tocolysis, steroids, antibiotics → monitor both ut. cont. & fetus
- **Is there is a role for tocolysis?** Even if it failed, it may just delay delivery for 24-48 hours until steroids act & to allow time to transfer the patient to place with neonatal ICU
- **Is there any tocolytic to avoid in this patient?** Yes: *anti-PG* (history of gastric ulcer)....take care when giving *yutopar* in a twin preg.
- **How to improve the chances of this baby?**
  - *Prolongation of pregnancy* → tocolysis
  - *Enhancing lung maturity* → steroids
  - *Trying to seek a cause for PTL* → treat it
  - *If delivery is inevitable special* → management of the 3 stages of labor
  - *Presence of good neonatologist* → management of complications
- **What you could do in next pregnancy?** The patient is considered high risk for recurrent PTL ∴ she will have extra-prophylactic care. However, there is a controversy about the efficacy of most prophylactic lines of management
- **How do steroids act?** enhance fetal release of surfactant. Surfactant (6 types) is secreted by type II alveolar pneumocytes under the control of fetal adrenal cortical activity → ↓ surface tension during lung expansion → prevent collapse & atelectasis
- **How to assess lung maturity**
  - *History* → for proper measurement of EDD, there must be (3)
  - *Clinical* → fundal *level* & fetal *weight* corresponding to amenorrhea
  - *Investigations*
    - U/S - Amniotic fluid turbidity....- Placental grade III
    - Amniocentesis - L/S ratio > 2 - Bubble stability test

Case 3

A 39 year-old G_6P_{3+2} woman at 34 weeks' gestation was admitted to the hospital. She stated that her abdomen was amazingly enlarging over the last 2 weeks. She was not in labor. On examination, general data was acceptable apart from excessive LL edema. She had 2 previous abortions who were anomalized.

- **What is your provisional diagnosis?**.....chronic polyhdramnios
- **What are the other causes of high fundal level?**
  - *Fetal* → multiple pregnancy, macrosomia
  - *Amniotic fluid* → polyhydramnios
  - *Placenta* → concealed accidental hge, vesicular mole
  - *Uterus* → tumors as fibroids with pregnancy
- **How to confirm the diagnosis?** by U/S: AFI > 20
  - Amniotic fluid index → the sum of the longest diameters of the 4 quadrants of the uterus (normal = 5–15)
  - The single longest pocket method
- **What is the commonest cause of polyhdramnios?**.....idiopathic
- **Do you think she might be diabetic?** Yes, as....
  - In this pregnancy → polyhydramnios
  - History → previous CFMF, old age, multiparity
- **How to exclude CFMF in obstetric practice?**
  - Biopsy → chorionic villus sampling
  - Imaging → U/S – CT – MRI
  - Screening → α-FP, Triple test (β-HCG + estriol + α-FP)
  - Endoscopy → amniocentesis, cordocentesis, fetoscopy
- **How DM causes polyhydramnios?**
  - Large placenta
  - Fetal polyuria
  - Anencephaly
- **If she's proved to be diabetic; what would be her class?** A_2....GDM
- **When will she deliver?** Spont...fetal maturity or distress....maternal distress
- **How she will deliver?** vaginal; by cautious AROM (Drew Smythe catheter)

Case 4

A 24 year-old G_2P_1 woman pregnant at 30 weeks' gestation was admitted 2 days ago complaining of leakage of watery vaginal discharge. Her antenatal history has been unremarkable. Today, she states that her baby is moving normally & she denies having fever or shills. Her past medical & surgical histories are unremarkable.

On examination BPr. was 100 /60, heart rate 90 bpm, temp: 38 °c. Her lungs are clear, no costo-vertebral angle tenderness was found. The uterine fundus is 30 cm and is slightly tender. Fetal heart rate tracing is persistently elevated (170-175) without decelerations

- **What is the most likely diagnosis?** Preterm premature ROM complicated by chorioamnionitis
- **What are the clues for diagnosis?**
  - *ROM* → leakage of watery vaginal discharge
  - *Chorioamnionitis* → 38°c, ut. tenderness, persistent ↑ FHR
- **How to exclude other causes of vaginal discharge?**
  - *Urine* → ccc odor & color, note that SUI may occur in pregnancy
  - *Show* → plug of mucus tinged with slight blood
  - *Infection* → change in the normal odor, color, amount
- **How to confirm ROM?**
  - *See fluid directly* → sterile cusco speculum
  - *See ↓fluid indirectly* → U/S → AFI
  - *Usually not done* → amniography → dye appears in a vaginal pack
- **What is the differential diagnosis of chorioamnionitis?**
  - Other causes of acute abdomen with pregnancy… *PTL*
  - Other causes of fever with pregnancy… *Pyelonephritis*
- **What is the most likely etiology of this condition?**....infection ✓✓
- **What is the best management for this patient?**....TOP is the only way as long as chorioamnionitis have occurred
- **How to induce labor?**.....according to *Bishop* score:-
  - *Drugs*
    - ↳ Oxytocin infusion
    - ↳ Prostaglandins (more potent but less safe)
  - *If membranes were still present*
    - ↳ Stripping of the membranes
    - ↳ Rupture of membranes (forewaters better than hindwater)
      - . Usually after AROM → uterine contractions will start
      - . If not started within 1 hour → oxytocin drip

❖ What is Bishop Score?

- PV done to assess *cervical state* to determine the *inducibility*
- *If score > 8* → inducible
- *If score < 8* → . Liable more to failed induction, prolonged labor, CS
  . Cx ripening could be improved by using PG vag. tab.

	0	1	2	3
- Dilatation	Closed	1–2	3–4	≥ 5
- Effacement	0–30%	40–50%	60–70%	≥ 80%
- Station	– 3	– 2	– 1, 0	+1,2
- Consistency	Firm	Medium	Soft	
- Position	Posterior	Middle	Anterior	

❖ What are the complications of chorioamnionitis?

- Local.....endometritis, salpingoophritis, peritonitis
- General.....septic thrombophlebitis, generalized peritonitis
- Organ affection.....septic shock, ARDS, DIC renal failure

❖ How to improve neonatal outcome?

1. *Expert neonatologist*
2. *Prophylactic antibiotic* → penicillin, ampicillin, erythromycin, cephalosporins. These are the most safe antibiotics during pregnancy (group B)
3. *Intrapartum monitoring*

- ○ Clinical
  - Intermittent auscultation by Pinard stethoscope
  - Amniotic fluid assessment
    - ▸ Meconium staining means fetal hypoxia & distress
    - ▸ This may be normal in → breech, postdate
- ○ Electronic
  - External monitoring ⇦ tocodynamometer
  - Internal monitor
    - ▸ Requirements → cx dilatation, ROM, cephalic presentation
    - ▸ Advantages → more accurate > external (esp for 'B_2B' variability)
    - ▸ Disadvantages → fetal infection & trauma
- ○ Biochemical (fetal scalp pH)
  - Indication ⇦ abnormal FHR pattern by the electronic monitoring
  - Results
    - ▸ >7.25 → normal
    - ▸ 7.2 – 7.25 → borderline → repeat
    - ▸ <7.2 → acidosis → interfere → immediate CS

Case 5

A 25 year old gravida 3 para 2 noticed vaginal spotting at 28 weeks for which she was hospitalized. The abdomen was noted to be too large for date and U/S detected twin gestation and a lower inserted placenta. Bleeding stopped spontaneously & the patient was discharged upon her request 24 hours later. At 30 wks, she was transmitted to hospital complaining of vaginal bleeding. On examination, uterus was found contracting once / 10 min

- **What is your final diagnosis**
- **What are other causes of such condition(s)??**
- **How to manage such a case**
- **What are the tocolytics to be avoided here**

Case 6

A G4 P3, 30 yrs old is now 34 wks pregnant & presented with mild vaginal bleeding for 1 week with no pain. All previous deliveries were conducted at home normally but without ANC. On examination BPr: 110/70, Pulse: 90 bpm. The fundal level is 2 fingers above umbilicus, cephalic presentation & FHS were regular. Inspection of vulva revealed mild bleeding. Hb 9.7 gm%, Two days ago she complained of decreased fetal kicks. CTG on 20 minutes showed no accelerations or decelerations with good baseline variability.

- **State your final diagnosis**
- **When are you going to deliver her**
  - →
  - →
  - →
- **How are you going to deliver her**
  - → or
  - → or
- **Does this fetus needs special management? Why?**
  - Drugs →
  - Follow up →

Case 7

A 28-year-old PG is admitted to the labor ward at 34 weeks gestation with reduced fetal movements for 24 hours. On examination her uterus is non-tender and her fundal level is 3 fingers above umbilicus. BP is 154/96 mmHg, pulse is 104 bpm and urinanalysis reveals ++ proteins. CTG reveals a reduced basal line variability and absence of accelerations over a one-hour period.

Establish your management

Case 8

A 25 year old para 4+2 has come to the clinic as she has no living children. Her 1st pregnancy was 9 yrs ago and ended in the delivery of a fresh stillborn child by CS for APHge. The next child was alive but rapidly developed jaundice and died 2 days after. The 3rd & 4th pregnancies ended in stillbirths at 38 & 34 weeks maturity. Both were cases of hydrops fetalis

Now, she is 30 wk pregnant and on doing routine investigations she is found to be Rh –ve and sensitized with a titer 1/512

- What could have been done to prevent fetal losses
- What is meant by hydrops fetalis? What are the other causes?
- Would the present fetus be necessarily affected & why?
- How would you manage such a case?

Zone	Hemolysis (HB%)	Repeat after...wks	Delivery at
1. Low (a)	> 13 gm%	3	term
2. Mid (b): Low	11–13	2	37 – 39
High	8 – 11	1	35 – 37
3. High (c)	< 8 gm%	Rapid intervention	

Case 9

A 24 year old woman G2, P1 at 30 weeks gestation was admitted 2 days ago for PROM. Her antenatal history has been unremarkable. She states that she has no fever or chills and baby is moving well. On admission BPr was 110/70, pulse 90 b/m, T 37.9

One day later, uterine contractions started regularly every 5 min & on examination cervix was found to be 2 cm dilated. The patient was put on tocolysis, but during therapy temp has been found 38.9

- What are the risk factors for PROM
- Was the initial conservation for this patient correct? Why?
- Was the management for uterine correction correct? Why?

Case 10

A PG, 30 years old, 36 wks pregnant. Her B.P. was 155/95 starting from the 26th week of pregnancy but she wasn't edematous. The ultrasonic report estimated the fetal weight 1.600 kg with positive turbidity of the amniotic fluid, atherosclerotic changes of placental blood vessels and the fetal life was positive.

- What further investigation you need to diagnose the case?
- This fetus is in danger, what is it?
- How are you going to conduct the delivery of this case?

Case II

A 23 year old G1P0 woman at 40 wks gestation is undergoing labor induction with syntocinon for oligamnios. She has been at 8 cm for 1 and 1/2 hours. A mild degree of caput is noted on cervical examination. The baby is presented cephalically with his vertex at station +1. Her uterine contractions are every 4-6 min and palpate firm each lasting for 30 sec. The EFW is 3.3 kg and the pelvis seems clinically adequate. The fetal heart tones range from 145-150 bpm. However the last 30 min twice a time there was sharp decrease of FHR to 90 bpm for 5 sec with spontaneous resolution. There was no loss of beat to beat variability.

- **What is your next step?**
- **What is the most likely diagnosis?**

Case 12

P3, one living male child. all deliveries were SVD, the 1st & last babies died in-utero, now presented at your clinic with decreased fetal kicks over past few days. FHS was +ve BPr 110/70, pulse 90 /m she is 32 weeks by date & FL was equal to her period of amenorrhea.

What is your management

- Admission
- Search for etiology
  - Maternal ➟
  - Uterine & placental ➟
  - Fetal ➟
- Follow up + steroids
  - History ➟
  - Examination ➟
  - Investigation ➟ Doppler + CTG

Case 13

A 39-year-old G6 P1 with a BMI 29, who has had 4 miscarriages in the past and a pulmonary embolism during her last pregnancy, is admitted to the labor ward with abdominal pain and vaginal bleeding at 35 weeks gestation. Her BP is 148/98 mmHg, and urinanalysis is ++ protein. She undergoes an emergency CS for suspected placental abruption. The baby's weight is below the 5th percentile, and the placenta is small with multiple thrombi and infarcts.

- **What is the most probable underlying cause?**

Miscellaneous MCQ

1- The true statement about diagnosing PROM is

a- Speculum examination is rarely done
b- History of sudden gush of watery fluid is sure symptom of PROM
c- The yellow green nitrazine paper turns into deep blue
d- C-reactive protein is a positive indicator for chorioamnionitis
e- Fern test is +ve if membranes are truly ruptured

2- The true statement about a healthy PG admitted at 30 wks with PPROM

a- Antibiotics are contraindicated
b- Prophylactic steroids are contraindicated due to fear of infection
c- Fetal lung hpoplasia may occur
d- No role of conservative management
e- Risk of recurrent PROM in next pregnancy is 20%

3- All the following about amniotic membrane are correct except

a- Prostaglandins component increase with time
b- It could be ruptured during external cephalic version
c- It produces alkaline fluid
d- It is adherent to the lower uterine segment
e- It is stained golden yellow in sensitized Rh –ve patients

4- Complications of polyhdramnios include the following except

a- PTL b- PPROM c- APHge
d- PPHge e- Potter's syndrome

5- Which congenital fetal anomaly doesn't induce polyhydramnios

a- Anencephaly b- Duodenal atresia c- Open spina bifida
d- Renal agenesis e- Omphalocele

6- Oligohydramnios may be associated with all the following except

a- Postdate b- chronic placental insufficiency
b- Esophageal atresia c- Renal agenesis d- Rupture of membranes

7- All the following about amniotic fluid are true except

a- They are mainly of maternal origin in first half of pregnancy
b- Prostaglandins are essential for fetal urine production
c- It could be assessed by single pocket method
d- It reaches the maximum at full term
e- It is mainly formed of water

Fetology

Write short essay on

- Uses of U/S in obstetrics
- Biophysical profile
- Causes and diagnosis of IUGR
- Management of IUGR

- Criteria of intrapartum fetal distress
- Macrosomia: definition, risk factors, complications, diagnosis, ttt
- Discuss macrosomia (etiology, diagnosis, comp., management)
- Causes of PTL
- Treatment of cases with established diagnosis of PTL
- Pharmacokinetics of tocolytics
- Discuss Postmaturity
- Oxytocin in obstetrics
- Methods, dosage and contraindications of ergometrine in 3rd stage of labor
- Discuss polyhdramnios
- Management of a case of PROM in pregnancy
- Etiology, diagnosis, management & complication of multifetal pregnancy
- Complications of multiple pregnancy
- Management of retained second twin
- Management of non-sensitized and sensitized RH –ve PG woman
- Hydrops fetalis
- How to improve neonatal outcome
- Caput succedaneum / Cephalhematoma
- Stillbirth rate & neonatal mortality rate & perinatal mortality rate
- Causes, diagnosis and tit of intrauterine fetal demise
- Diagnosis of IUFD
- Neonatal asphyxia
- Treatment of asphyxia livida
- Respiratory distress syndrome of the newborn
- Causes of jaundice in the newborn within 1st week of delivery

Enumerate

- Causes of macrosomia
- Complications of twin pregnancy
- Fetal birth injuries
- Causes of intrauterine fetal demise
- Enumerate methods of diagnosis of IUFD
- Serological tests carried for a case of repeated IUFD in late pregnancy
- Causes of fetal distress
- Causes of neonatal convulsions shortly after delivery
- Four common CFMF (in order of frequency)
- Causes of elevated maternal αFP
- Indications of amniocentesis
- Possible malformations inflicted to the fetus of a mother subjected to German measles in the 1st trimester

7

Operative

- Induction of labor
- Cesarean section
- Forceps

+ Puerperium

How to reduce MMR in Egypt ?

Definition *The death of any woman* d.t. any cause (in preg. & puerp.) ¤
Regardless the duration or site of pregnancy
From any cause related or aggravated by preg. or its management
But not from accidental or incidental causes

Indices used

$$MMR = \frac{\text{number of maternal death in one year}}{\text{number of total births in the same year}} \times 100.000$$

* It is about 75 /100.000 in Egypt

Etiology

- The 3 major catastrophes
  - . Haemorrhage (PPHge = 35%)
  - . PIH
  - . Heart disease
  - . Anemia
  - . Sepsis (recently decreased by the proper use of antibiotics)
- Others
  - . DVT & pulmonary embolism
  - . Complications of anesthesia
  - . Other medical disorders

Factors affecting MMR

❶ ▸ Age

Less than 20 yrs	Elderly (35 yrs)
.Nutritional deficiency (immaturity)	.Nutritional def (consumption)
.Hypertensive disorders	.HTN + DM
.Dystocia (small pelvis)	.Dystocia (osteomalacic pelvis)

❷ ▸ Parity..... Grandmultipara → liable to

Pregnancy	Labor
.Abortion, PTL, anemia	.Uterine atony (more fibrous tissue)
.Malpresentation (lax abd. wall)	.Obstructed labor → rupture uterus
.Placenta previa (accreta)	.PPHge
.Chronic hypertension, DM	

❸ ▸ Social class → low
❹ ▸ Ante-partum care → more for those not receiving good ANC
❺ ▸ Intra-partum care → mode & place of delivery

1] Good antenatal care

- Proper history taking, examination, investigation.....
  - ANC is done every 4 weeks till 28 wks, then every 2 weeks till 36 wks, then every 1 week till delivery
  - At each return visit

☆ History:

Dangerous symptoms

....In early pregnancy
- Bleeding, Pain, discharge (watery or infected)
- Fever, Dysuria
- Persistent vomiting

....In late pregnancy (as above +)
- Symptoms of PET (blurring of vision, epigastric pain)
- symptoms of DM (polyuria, polydypsia, pruritis)
- Change in intensity or decreased fetal kicks

☆ Examination
- General ⇨ weight / blood pressure / edema
- Abd ⇨ assess growth, liquor amount, presentation, position, FHS
- PV ⇨ late or in presence of abnormality (not essential).

- Early detection of problems e.g.:-

DM

Suspected in GMP with +ve FH, previous macrosomic baby
Detected early by 1hr PP test to be confirmed by 3 hr GTT

PET

Suspected in PG esp obese, diabetic, extremes of age
Detected early by Doppler & detection of proteinuria

- HRP are hospitalized (conservation) and properly managed

DM must have strict control of glucose level with follow up of fetal & maternal complications

PET is conserved in only mild cases (BPr <160/100, albumin +1) with close observation for fear to turn severe at any time

- HRP is to be terminated by the proper route & time e.g.:

DM at any time there are dangerous complications that could threaten the life of mother or fetus

PET if turned severe or eclamptic fits occurred

2] Good intranatal care

- **Proper management of 1st stage**
  - ▸ Observation by Partogram = diagrammatic presentation of labor
    - ○ Evacuate bladder & rectum → to avoid inertia
    - ○ Proper analgesia & asepsis
  - ▸ Proper admission in the "active" phase of 1st stage
  - ▸ Immediate "AROM" is performed for all patients
    - ○ This leads to liberation of PG
    - ○ One hour later, if uterine contractions are still inadequate
      ↘ augmentation of labor by oxytocin drip

- **Proper management of 2nd stage**

  Head is maintained flexed till crowning by pressing with a pad on the perineum & hand on the occiput. Then allow gradual controlled extension in between contractions → allow the perineum to slide over the face without downward push from the mother

- **Proper management of 3rd stage**
  - Active management: to decrease blood loss & decrease incidence of retained placenta. Give oxytocin just after delivery of baby, then push fundus upwards gently by ulnar side of left hand with controlled cord traction to deliver placenta
  - Placenta & membranes are examined for missed parts
  - Inspect & repair perineal & vaginal tears.

- **Early detection & management of PPHge**
  - Early detection of any abnormality needing CS (macrosomia, CPD)
  - Early detection of signs of obstructed labor or uterine atony
  - Proper use of ecbolics
  - Adequate precautions in operative obstetric deliveries
  - EUA if PPhge occurred for early diagnosis

3] Good postnatal care

- **Prevention of puerperal sepsis**
  - . Proper sterilization & antiseptic technique
  - . Avoid unnecessary PV examinations
  - . Prophylactic abcts if PROM or in prolonged labor
- **Prevention of DVT**
  - . Avoid Pdf e.g. prolonged immobilization
  - . Early diagnosis & proper administration of heparin

Case 1

A 36year-old woman delivers spontaneously at 33 weeks gestation, having had pre-labor pre-term rupture of membranes from 29 weeks gestation. She is re-admitted to the post-natal ward one week later with marked dyspnea. Abdominal examination showed uterine fundus is palpable at the level of the umbilicus which was tender. On P/V examination there was intense warmth, tissue dryness but there was no discharge. Both lower limbs were edematous.

- **What is the most probable diagnosis**

Case 2

PG delivered spontaneously a living male baby at her home with retention of placenta, and then transferred to hospital with postpartum hemorrhage, manual separation of placenta was done but she developed puerperal pyrexia & followed by 2^{ry} amenorrhea.

- **What is the possible cause of p.pyrexia?**
- **What are the other causes**

1- P. sepsis → ✓….the most serious	4- DVT
2- Breast → ✓….the most common (engorgement, mastitis, abscess)	5- Complication in associated genital tumor
3- Infections e.g. UTI or wound inf.	6- Lung atelectasis

- **What is the possible cause of this amenorrhea**

Puerperium

Write short essay on

- Puerperal pyrexia
- Causes of puerperal pyrexia (five methods)
- How would you investigate pyrexia after labor
- Diagnosis and treatment of puerperal sepsis
- How to improve MMR
- Causes of MMR in Egypt versus developed countries (in order of frequency)

Enumerate

- Causes of puerperal pyrexia related to the process of delivery (mention 4)
- Causes of puerperal pyrexia
- Causes that hinder the internal os to close and the uterus to become pelvic organ after delivery
- State when does the internal os close after delivery? & when does the uterus become a pelvic organ after normal labor

Operative

Write short essay on

- Induction of labor
- Methods of induction of labor
- Uterine stimulants (oxytocin, PG, ergometrine)
- Indications, technique & complications of episiotomy
- Indications of forceps delivery
- Complications of forceps delivery
- Failed forceps
- Indications and complications of vacuum extraction
- Indications of cesarean section

Enumerate

- Pre-requisites of applications of the obstetric forceps
- Postoperative & long term complications of CS
- Indications of Cesarean hysterectomy

General Preparation

- *Position* ⇨ *Lithotomy*
- *Anesthesia* ⇨ GEA or paracervical block
- *Bimanual examination of the uterus* ⇨ size, mobility, adenexae
- *Sterilization* ⇨ *Catheterization* ⇨ *Toweling*
- *Expose the vagina* ⇨ by self retaining Auvard speculum
- *Grasp the cervix* ⇨ by volsellum (for gentle traction & cx manipulation)
- *Uterine sounding* ⇨ (to know the length & direction of uterus)

General Complications

1. Anesthesia
2. Early
   - Hemorrhage
   - Injury
   - Infection
   - Abdominal operation.....injury to ureter, intestine
   - Vaginal operation.....adhesion, fibrosis
3. Later on.....DVT, psychological

General scheme

			Obstetrics	Gynecology
1	Def. & %	1	1%.....10%.....50%.....90%	
2	Etiology		.*Maternal* (mother, uterus) .*Fetal* (fetus, pl., AF, cord)	.Infection (org.,route.,PDF) .Tumor (hyperestrogenemia) .Endocrine (anovulation)
3	Pathogenesis	2	Unknown (theories), familial, idiopathic, iatrogenic	
4	Pathology			Mac…mass, ulcer, infiltrat. Mic…atypia (cellular, archit)
5	Clinical picture	3	*Symptoms* .Amenorrhea .Pain .Bleeding .Sympt. of comp. *Signs* .General…of comp .Abd…. 4 grips + FHS .local… PV	*Symptoms* . Bleeding . Swelling . Pain . Discharge *Signs* . General . Abd . Local
6	D.Diagnosis		To the major sympt. / sign	
7	Investigations	4	**A**etiology FW**B**……late **C**omplications **D**iagnosis…..U/S + β-HCG Routine**E**…..early	- Screening - Diagnostic…invasive / not - Preoperative - Metastasis……OR (*α: lab, scan, scope, biopsy)*
8	Complications		*Pregnancy*……P *Parturition* .1st …..PROM, .2nd ….obst. .3rd …..PPhge *Puerperium*….3S *Fetus* .CFMF .IUGR .IUFD .PTL *Labor*..5	The most common The most serious .Anesthesia .Hge .Infection .Injury
9	Treatment	5	*Conservation* .Why…..not severe yet .Where…ANC, Hospital .How…..control disease detect comp. TOP .Why……..severe .How…..VD / CS	*Medical* .Hormonal….COC, clomid .Medical…..anti-PG *Surgery* .Conservative…young .Radical……old *Follow-up* *Prognosis & recurrence*

Obst	1 (very good)	2 (excellent)	Enumerate
"A"			
Physiology & Mat adapat	Placental functions	- HCG in pregnancy - Changes in Cardiac system	* Anomalies of placenta, cor * Functions of Amniotic fluid
ANC	.Diagnosis of preg in 1st trimester .Calculation of EDD	- Comp. of young / old age - Comp. of GMP / elderly PG - Routine investing. in preg	- Sure signs of preg - Causes of non-engagement - DD of FL > or < amenorrhea
l. early preg	- Threatened, missed, septic - Patulous os / habitual abortion - Ectopic (diagnosis / ttt)	- Management & follow up of Vesicular mole	- Clinical types of spont ab - Causes of habit. abortion - Risk factors / fates of ectopic
APHge	P.previa (diagnosis / ttt) Acc. Hge (comp)	- Vasa previa	- Risk factors/comp of acc.hge
PPHge	- Atonic PPhge - Retained placenta - Complete perineal tear - Rupture uterus - 2ry PPhge (causes / ttt)	- Obstetric trauma: . Maternal . Fetal birth injuries	- Causes of 1ry PPHge - Causes of 2ry PPHge - Comp of rupture uterus - Causes of shock in obst
ls with preg	- PET (diagnosis / ttt) - Eclampsia (diagnosis / ttt) - DM (comp: infant of diabetic) - Hyperemesis gravidarum	. Anemia } usually . Heart dis } clinical cases	- Criteria of severity of PET - Comp/bad signs of eclamps - Comp of DM (fetal/ newborr - Pdf for pyelonephritis - Abd. pain with pregnancy
"B"			
Labor	- Diagnosis of onset of labor - Management of 3rd stage - OP: management - Breech: retained coming head - Transverse lie: causes / ttt	Diameters of head & pelvis	- Etiology of . OP . Breech . Transverse lie - Causes / comp of obst labor
CPD on. ut action	Obstructed labor	Types & management	* Pre-requites for trial of labc * Classification of abn.ut.acti
Fetology	Biophysical profile · U/S - IUGR - Macrosomia / should. dystocia - PTL (causes / ttt) - Twins (diagnosis / comp) - Rh incompatibility	- Newborn . RDS . Neonatal asphyxia - Puerperium .Puerperal pyrexia .Puerperal sepsis - Operative .Episiotomy: ind /comp/ types .Prerequisites for forceps .Comp of CS / VBAC	- Parameters of BPP - Indications of amniocentesis - Causes of elevated α-FP - Apgar score - Causes of fetal distress - Diagnosis of IUFD - Causes of PTL / IUGR - Causes / comp of oligohyd. - Causes / comp of polyhdr. - Comp: twins / PROM / macr

Questions

Gyna A	Obst A
1- PID 2- Comp of IUCD / hormones 3- Post/perimenopausal bl 4- Assessment of ovulation 5- PCO 6- ART 7- Management of menopause 8- Primary amenorrhea	9- Habitual abortion 10- Undisturbed ectopic 11- Anemia with pregnancy 12- Obst trauma (Rupture ut.) 13- GTD's 14- APHge 15- Management of PET 16- Management of DM
Gyna B	**Obst B**
17- CIN 18- Fibroid (comp & ttt) 19- Endometrial cr 20- End hyperplasia & polyps 21- Endometriosis 22- Cancer ovary (comp & ttt)	23- Induction of labor 24- P. pyrexia 25- Management of OP, breech 26- Discuss obstructed labor 27- IUGR, Rh, PTL, twins 28- C. section (indic. & comp)

Cases

Gyna	Obst
▪ 14 yr, no menses, pelviabdominal mass ▪ IUCD + amen. followed by pain ▪ IUCD + menorrhagia + fever ▪ 35 yrs, contact bleeding ▪ 45 yrs, menorrhagia, abd swelling ▪ P5, 48 yrs, vaginal swelling, backache ▪ 62 yrs, postmenop bleeding ▪ P0+1, 2ry infertility, dysmenorrhea ▪ 1ry infertility, induction of ov, acute abd ▪ D&C followed by hypomenorrhea ▪ P2, 32 yrs, delivered 1 yr ago, amenorrhea ▪ 45 yrs, sacralgia + fixed RVF uterus ▪ 40 yrs + adnexal swelling ▪ 36 yrs, P3+1, cx ulcer ▪ 25 yrs, abdominal swelling + bleeding ▪ 45 yrs, irregular menses, hot flushes ▪ 1ry infertility, irregular menses, hirsute ▪ 16 yrs, never menstruated ▪ 70 yrs, postmenopausal bleeding + ascites	▪ 35 wks, watery vaginal discharge ▪ 7 wks pregnant, acute abdomen ▪ Amenorrhea 6 wks + spotting ▪ 30 wks, recurrent bleeding ▪ In labor, breech, retained head ▪ In labor, cephalic, retained shoulders ▪ 30 wks by date, FL 36 wks ▪ 36 wks, FL 32, mild PET ▪ 36 wks, acute abdomen, collapse ▪ Severe PET, 36 wks, acute abd ▪ In labor for 24 hrs, sudden collapse ▪ After delivery, retained placenta ▪ In labor, 5 cm for 2 hours ▪ P2+3 (no living), Rh –ve ▪ 38 yrs, P3, ROM 48 hrs, fever ▪ P4, 36 yrs, 26 wks, GTT 240 mg% ▪ PG, 19 yrs, amen 3 m, FL at umbilicus ▪ P2, delivered 3 wks ago, bleeding ▪ P2, delivered 2 wks ago, offensive disch